PeriReporter User's Guide 2.1

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Preface

Scope

The *PeriReporter User's Guide* provides information for the use of the PeriReporter tool. It gives step-by-step instructions on gathering and displaying data from the Avaya Media Processing Series system.

In addition to this document, the *PeriView Reference Manual* may be particularly helpful when working with PeriReporter. It describes how to work within PeriView's Graphical User Interface (GUI) and individually documents each of PeriView's tools.

Intended Audience

This document is targeted at any PeriView user. That is, any person responsible for using PeriView to interact with the Avaya Media Processing Server (Avaya MPS) Series could use this information. This guide assumes that PeriView users have completed a Periphonics training program conducted as part of the initial system installation.

How to Use This Manual

This manual uses many standard terms relating to computer system and software application functions. However, it contains some terminology that can only be explained in the context of the Avaya MPS system. See the *Glossary of Avaya MPS Terminology* for definitions of Avaya MPS-specific terms.

Initially, you should read this manual at least once, from start to finish. Later, you can use the Table of Contents to locate topics of interest for reference and review.

If you are reading this document online, use the cross-reference links (shown in blue) to quickly locate related topics. <LEFT> click once with your mouse while positioned with your cursor over the cross-reference link. Click on any point in a Table of Contents entry to move to that topic. Click on the page number of any Index entry to access that topic page.

To familiarize yourself with various specialized textual references within the manual, , see ***Conventions Used in This Manual*** on page 10.

Periphonics is part of Avaya. The name Periphonics, and variations thereof, appear in this manual only where it is referred to in a product. (For examples, a PeriProducer application, the `PERImps` package, the **`perirev`** command, etc.)

At certain points in this manual, Avaya MPS is analogous with Voice Processing Series (VPS). This is reflected in specific file names and directories, as well as certain software features.

Organization of this Manual

This manual contains separate sections that describe the features and functions of the PeriReporter tool.

- **Chapter 1 - Introduction**
  This chapter discusses the general characteristics of the PeriReporter tool, including function, terminology, and individual components.

- **Chapter 2 - Statistical Maintenance**
  This chapter discusses the differences between single and multi node environments along with System and Application statistics. This chapter further discusses the collection and storage of statistical information for the Avaya MPS system.

- **Chapter 3 - PeriConsolidator**
  This chapter discusses the various ways statistical data is gathered for use by the PeriReporter tool.

- **Chapter 4 - PeriDefiner**
  This chapter discusses how reports are designed for generation at a later time.

- **Chapter 5 - PeriReporter**
  This chapter discusses how reports are generated for specific dates and times.

- **Chapter 6 - Step-by-Step Sample Report**
  This chapter contains a step-by-step construction of a sample report.

Conventions Used in This Manual

This manual uses different fonts and symbols to differentiate between document elements and types of information. These conventions are summarized in the following table.

Conventions Used in This Manual Sheet 1 of 2

Notation	Description
Normal text	Normal text font is used for most of the document.
important term	The Italics font is used to introduce new terms, to highlight meaningful words or phrases, or to distinguish specific terms from nearby text.
system command	This font indicates a system command and/or its arguments. Such keywords are to be entered exactly as shown (i.e., users are not to fill in their own values).
command, **condition** and **alarm**	Command, Condition and Alarm references appear on the screen in magenta text and reference the *Command Reference Manual*, the *PeriProducer User's Guide*, or the *Alarm Reference Manual*, respectively. See these documents for detailed information about **Commands**, **Conditions**, and **Alarms**.
`file name / directory`	This font is used for highlighting the names of disk directories, files, and extensions for file names. It is also used to show displays on text-based screens (e.g., to show the contents of a file.)
on-screen field	This font is used for field labels, on-screen menu buttons, and action buttons.
<KEY NAME>	A term that appears within angled brackets denotes a terminal keyboard key, a telephone keypad button, or a system mouse button.
Book Reference	This font indicates the names of other publications referenced within the document.
cross reference	A cross reference appears on the screen in blue text. Click on the cross reference to access the referenced location. A cross reference that refers to a section name accesses the first page of that section.
	The Note icon identifies notes, important facts, and other keys to understanding.
	The Caution icon identifies procedures or events that require special attention. The icon indicates a warning that serious problems may arise if the stated instructions are improperly followed.

Conventions Used in This Manual Sheet 2 of 2

Notation	Description
	The flying Window icon identifies procedures or events that apply to the Windows operating system only.[a]
	The Solaris icon identifies procedures or events that apply to the Solaris operating system only.[b]

a. Windows and the flying Window logo are either trademarks or registered trademarks of the Microsoft Corporation.
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Solaris and Windows Conventions

This manual depicts examples (command line syntax, configuration files, and screen shots) in Solaris format. In certain instances Windows specific commands, procedures, or screen shots are shown where required. The following table lists examples of general operating system conventions to keep in mind when using this manual with either the Solaris or Windows operating system.

	Solaris	**Windows**
Environment	`$MPSHOME`	`%MPSHOME%`
Paths	`$MPSHOME/common/etc`	`%MPSHOME%\common\etc`
Command	**`<command> &`**	**`start /b <command>`**

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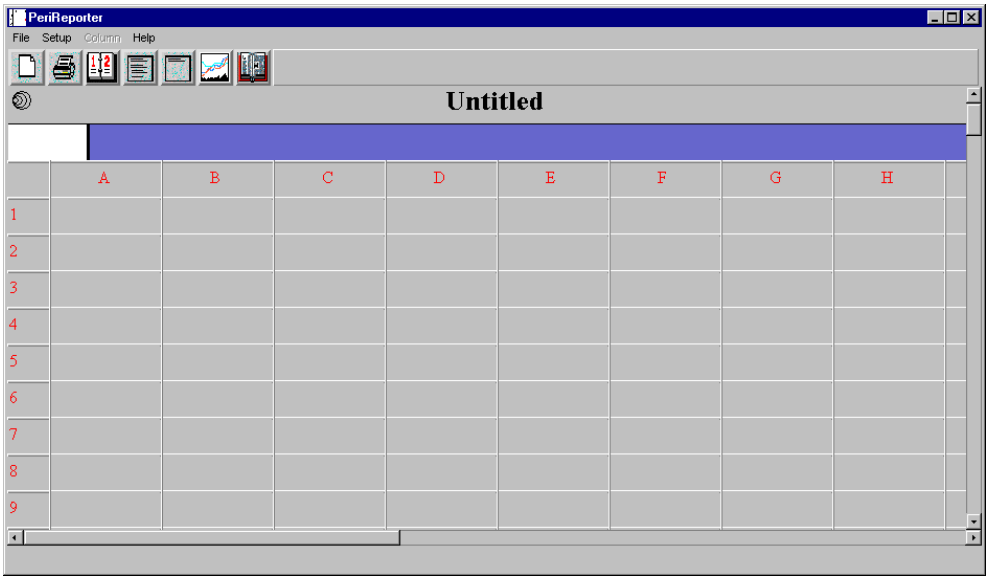
1

Introduction

This chapter covers:

1. **What is PeriReporter?**
2. **Three Components of PeriReporter**
3. **Sharing Data Between Solaris and Windows**
4. **Time Zones**

What is PeriReporter?



PeriReporter is a PeriView tool, consisting of three subtools - PeriConsolidator, PeriDefiner, and PeriReporter - each contributing to the process of collecting, maintaining, defining, and reporting statistical data for the Avaya Media Processing Server (Avaya MPS) Series network. Using a Graphical User Interface (GUI), it allows a point and click specification of multiple report formats for each statistics record type. A report is viewed as a set of columns, with each column representing an application or system statistics defined counter. There is a row of cells for each time interval recorded in a statistics file.

When the PeriReporter Tools package is installed a `.perireporter` file is created in the default PeriReporter home directory (`$MPSHOME/PERIprpt/prpt`). When any changes are made in the Global Settings, Screen Colors, or Print Setup portions of the PeriDefiner or PeriReporter components a new `.perireporter` file is created in your home directory. These changes are then saved in this new file. The original `.perireporter` file will remain unchanged. Eliminating the file residing in your home directory will reset all parameters back to their default settings.
For additional information on the installation of the PeriReporter Tools package, refer to the *Avaya Installing Graphical Tools on a Customer Supplied Workstation (9090504(I))* manual.

In a single node environment, each of PeriView's tools reside on the Avaya MPS node and all tools will display on the tool bar. In a multi-node environment, PeriView tools reside on each node in the Avaya MPS network, but the PeriReporter tool typically resides only on the node that is designated as the site for statistical collection and reporting. Therefore, in a multi-node environment, the PeriReporter tool will only display on the tool bar at the node(s) at which PeriReporter resides.

For additional information on single node environments, see ***Defining Stat Events in a Single Node Environment*** on page 22.

Three Components of PeriReporter

PeriReporter consists of three parts, each dependent on previous input for required information.

PeriConsolidator

This program gathers all system and application statistics and consolidates them into 15 minute, hourly, daily, weekly, monthly and yearly files. PeriConsolidator should be configured in the `crontab` and set to run once a day at a convenient time, preferably when the Avaya MPS system load is relatively light.

For additional information, see the PeriConsolidator chapter.

PeriDefiner

This program is a graphical utility which is used to set up the contents and the display of a specific report. After a report definition is created and saved it can be generated using the PeriReporter tool.

For additional information, see the PeriDefiner chapter.

PeriReporter

This program is a graphical utility which is used to generate reports. The report (created in PeriDefiner) must be specified, along with the date and the consolidation type, after which it can be generated and printed.

For additional information, see the PeriReporter chapter.

Sharing Data Between Solaris and Windows

If PeriReporter is going to be used to collect data from both Solaris and Windows terminals certain configuration changes have to be made to the `.rhosts` file.

On Solaris terminals the `.rhosts` file is located in the `/home/peri` directory. This configuration change only needs to be made if data will be collected from both Solaris and Windows terminals.

On Windows terminals the `.rhosts` file is located in the `\WinNT` directory. This configuration change always needs to be made, regardless of whether data will or will not be collected from both Solaris and Windows terminals.

Open the `.rhosts` file and add the identifications of all terminals from where statistics are to be collected.

The following example represents a system which has three Solaris terminals and three Windows terminals, where the `.rhosts` file from the first Solaris terminal (UNIX1) is being changed.

```
UNIX2_NAME    peri
UNIX2_NAME    SYSTEM
UNIX3_NAME    peri
UNIX3_NAME    SYSTEM
WINDOWS1_NAME peri
WINDOWS1_NAME SYSTEM
WINDOWS2_NAME peri
WINDOWS2_NAME SYSTEM
WINDOWS3_NAME peri
WINDOWS3_NAME SYSTEM
```

Seeing as how the statistics are being collected on the `UNIX1` terminal from the terminals `UNIX2`, `UNIX3`, `WINDOWS1`, `WINDOWS2` and `WINDOWS3`, only those terminals need be listed.

Microsoft Services for UNIX (SFU) must be installed for PeriReporter collections scripts to function correctly.

Symantec pcAnywhere cannot be installed, for any reason, on a node where the SFU utilities reside. There is a conflict between pcAnywhere and the Avaya software that produces system errors.

Time Zones

In certain areas of the world, Java will not recognize the time zones set on the system which it is installed. If this occurs, PeriReporter will default to Greenwich Mean Time and report times will be off by several hours. It is also possible that the consolidation will not be performed correctly.

To be sure this does not occur the `.perireporter` file, residing in your home directory, must be modified. A line stating `timezone=` along with your three-digit time zone identification code must be added.

For example, if your system is installed in Hong Kong, and runs on China Standard Time, the following line would need to be added to the `.perireporter` file.

```
timezone=CTT
```

To determine your time zone identification code, refer to the following table.

All times are listed in Standard Time. Adjust for Daylight Saving Time accordingly.

Time Zones Sheet 1 of 2

Time Zone Name	Offset From GMT	ID	Countries/Cities/Regions
Greenwich Mean Time	GMT + 0 hours	GMT	Africa/Casablanca
Romance Standard Time	GMT + 1 hour	ECT	Europe/Paris
Egypt Standard Time	GMT + 2 hours	EET	Arica/Cairo
Saudi Arabia Standard Time	GMT + 3 hours	EAT	Asia/Riyadh
Iran Standard Time	GMT + 3 1/2 hours	MET	Asia/Tehran
Arabian Standard Time	GMT + 4 hours	NET	Asia/Yerevan
West Asia Standard Time	GMT + 5 hours	PLT	Asia/Karachi
India Standard Time	GMT + 5 1/2 hours	IST	Asia/Calcutta
Central Asia Standard Time	GMT + 6 hours	BST	Asia/Dacca
Bangkok Standard Time	GMT + 7 hours	VST	Asia/Bangkok
China Standard Time	GMT + 8 hours	CTT	Asia/Shanghai
Tokyo Standard Time	GMT + 9 hours	JST	Asia/Tokyo
Central Australia Standard Time	GMT + 9 1/2 hours	ACT	Australia/Adelaide
Sydney Standard Time	GMT + 10 hours	AET	Australia/Sydney
Central Pacific Standard Time	GMT + 11 hours	SST	Pacific/Guadalcanal
New Zealand Standard Time	GMT + 12 hours	NST	Pacific/Auckland
Samoa Standard Time	GMT - 11 hours	MIT	Pacific/Apia

Time Zones Sheet 1 of 2

Time Zone Name	Offset From GMT	ID	Countries/Cities/Regions
Hawaiian Standard Time	GMT - 10 hours	HST	Pacific/Honolulu
Alaskan Standard Time	GMT - 9 hours	AST	America/Anchorage
Pacific Standard Time	GMT - 8 hours	PST	America/Los Angeles
US Mountain Standard Time	GMT - 7 hours	MST	America/Denver
Central Standard Time	GMT - 6 hours	CST	America/Chicago
Eastern Standard Time	GMT - 5 hours	EST	America/New York
Atlantic Standard Time	GMT - 4 hours	PRT	America/Halifax
Newfoundland Standard Time	GMT - 3 1/2 hours	CNT	America/St. Johns
South America Eastern Standard Time	GMT - 3 hours	AGT	America/Buenos Aires
East South America Standard Time	GMT - 3 hours	BET	America/San Paulo
Azores Standard Time	GMT - 1 hours	CAT	Atlantic/Azores

2

Statistical Maintenance

This chapter covers:

1. **Collection and Maintenance of Statistical Data**

Collection and Maintenance of Statistical Data

Statistics are collected and stored in 15-minute intervals, on a per Avaya Media Processing Server (Avaya MPS) Series basis, for all Avaya MPS configured for the network. The `$MPSHOME/common/etc/vpshosts` file lists all networked servers and the nodes at which they are configured.

When collecting stats from remote systems, PeriReporter will look in the `vpshosts` file. For both system and application stats, PeriReporter will retrieve data for all systems that are of TYPE *vps* in the `vpshosts` file. **In some cases, the `vpshosts` file may or may not contain some *vps* systems to gather statistics from. To solve this problem, the collections scripts check for the presence of an alternate `vpshosts` file called `vpshosts.prpt`. This file will be used if it exists. Otherwise, the normal `vpshosts` file will be read.**

For system stats, PeriReporter goes through each vps entry, converts the data to binary form and brings it back to the PeriReporter node.

For application stats, PeriReporter goes through each vps entry. If it is not the local node and it has not already been copied from another vps entry, the data is brought back to the PeriReporter node.

The `vpshosts` file determines which systems will be used to gather statistics from. Use the `vhman` or `xvhman` command to configure the `vpshosts` file.

For additional information on configuring the `vpshosts` file, see the *PeriView Reference Manual* (9090722 (I)).

Statistics may be categorized as being either system statistics or user-defined, application-specific statistics. All statistics data is stored and is available for creating and generating reports.

- Each Avaya MPS' VSTAT process collects system statistics and writes them to raw statistics files in the directory `$MPSHOME/vps(#)/stats`. One VSTAT process exists for each server.

- Each node's VSUPD process collects application statistics and writes them to raw statistics files in the directory: `$ASEHOME/stats`. One VSUPD process exists for each node.

The process of system statistics collection and reporting is transparent to the user. However, the process of collecting and reporting application statistics requires user intervention.

Once a report is generated, report data is always static. Statistical updates can only be displayed by generating a new report.

Single vs. Multi-node Environments

In a single node environment, the PeriReporter tool, statistics files and applications all exist on the same node. (Stat events are defined, generated and collected on this same node.)

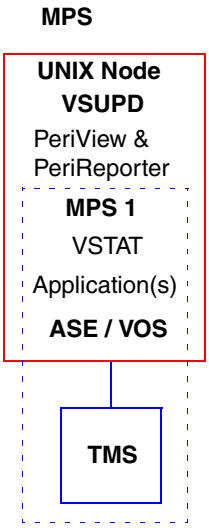
In a multi-node environment, applications can execute on nodes where PeriReporter does not reside. Statistics are transferred from the node at which they are generated to the statistics node via scripts which run on the collection node.

Defining Stat Events in a Single Node Environment

This process applies to a configuration in which application statistics are to be collected from Avaya MPS Series and VAS resources that reside on the statistics node. The node's VSUPD process is responsible for collecting application statistics from all resources on the node. Each server's VSTAT process is responsible for collecting system statistics for the unit.

A single Avaya MPS consists of Telephony Media Server (TMS) hardware and both Application Services Environment (ASE) and Voice Operating Software (Avaya VOS) software processes. The UNIX node consists of Avaya MPS Series elements common to all units configured for the node.

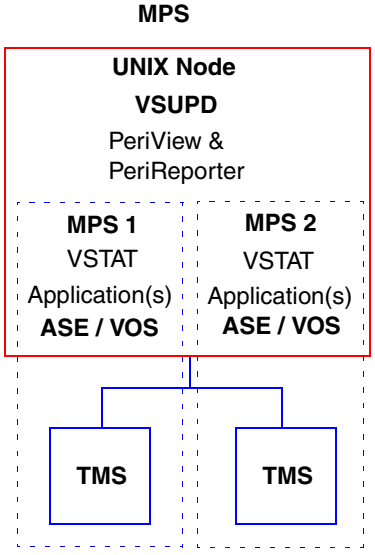
The following diagrams illustrate the relationships between the components in a single node Avaya MPS Series from the PeriReporter point of view.



In this example, the UNIX node consists of a VSUPD process and PeriView—with PeriReporter, and a single Avaya MPS on which applications execute. The Avaya MPS consists of a VSTAT process; applications; ASE and VOS processes; and TMS hardware.

Application stat events are defined within each application, to the statistics node, and to the VSUPD process. The VSUPD process collects application statistics for the node and writes them to `$ASEHOME/stats` as raw statistics files.

After System statistics for the Avaya MPS are collected they are converted and stored in `$ASEHOME/stats` as raw statistics files.



In this example, the UNIX node consists of a VSUPD process and PeriView—with PeriReporter, and two Avaya MPSs on which applications execute. The Avaya MPSs each consist of a VSTAT process; applications; ASE and VOS processes; and TMS hardware.

Application stat events are defined within each application, to the statistics node, and to the VSUPD process. The VSUPD process collects application statistics for the node and writes them to `$ASEHOME/stats` as raw statistics files.

After System statistics for the Avaya MPS are collected they are converted and stored in `$ASEHOME/stats` as raw statistics files.

Application Stat Events in a Multi-Node Environment

This process applies to a configuration in which application statistics may have to be collected from the Avaya MPS Series Network and VAS resources that reside on the statistics node and from Avaya MPS and VAS resources that reside on nodes at which the statistics files do not reside. Typically, in a multi-node environment, the PeriReporter tool resides at one node only.

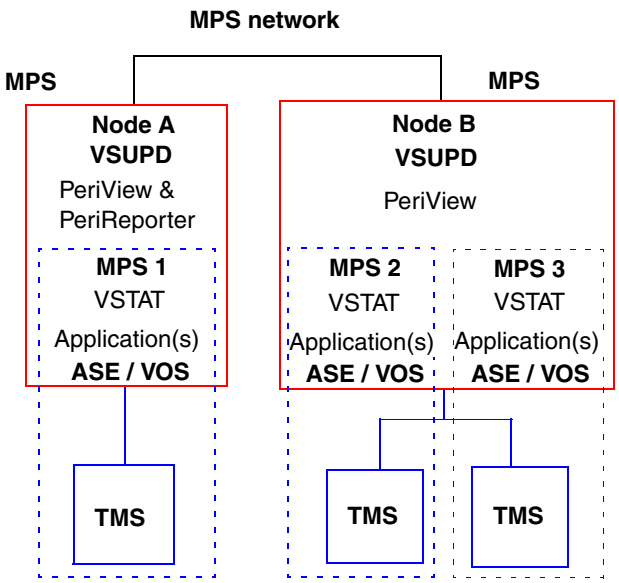
A node's VSUPD process is responsible for collecting application statistics from all Avaya MPS and VAS resources on the node. Each servers VSTAT process is responsible for collecting system statistics for the unit.

VSUPD must be running on all nodes at which application statistics are to be collected. This includes all Avaya MPS and VAS nodes at which applications are running.

The following diagram illustrates the relationship between the components in a multi-node Avaya MPS Series Network configuration, from the PeriReporter tool point of view.

In this example, the Avaya MPS Series Network is configured with two UNIX nodes, and a VSUPD process is associated with each node. Although PeriView resides at both nodes, PeriReporter resides only on Node A, which is configured with a single Avaya MPS 100. Node B consists of two Avaya MPS 100s. Each Avaya MPS consists of ASE and VOS software processes, a VSUPD process, TMS hardware, and applications.

Applications assigned to Node A are executing locally with respect to PeriReporter. Applications assigned to Node B are executing remotely with respect to PeriReporter.



Stat Events are defined within each application and to each node's VSUPD process (which collects application statistics for the node and writes them to the directory `$ASEHOME/stats` as raw statistics files).

The `strec#.sre` files must be copied from Node A to Node B.

Application statistics, collected at Node B, need to be transferred to Node A.

In a multi-node environment, the stat event definition process may involve defining stat events for applications that are executing on both local and remote nodes. Fields in a stat record file must be defined once for each unique application for which statistics are to be collected, whereas stat record code stub files must exist on each node at which application statistics are to be collected.

Example:

If multiple instances of the same application are to execute on different nodes in the network, fields in a stat record file have to be defined only once for the application, regardless of the number of locations at which it will execute. However, stat record code stub files must be located on all nodes running applications for which statistics are to be collected.

PeriReporter and the Avaya MPS Network

Typically, a single node in a Avaya MPS Series Network is designated to collect and report statistical data. PeriReporter resides on the node designated for this purpose.

System statistics are collected from each Avaya MPS Series by the server's VSTAT process. One VSTAT process exists for each unit.

- In a single node environment, all Avaya MPS Series exist on the same (local) node. System statistics are collected once each hour by each unit's VSTAT process. The script `pr-sys-v5.plx` runs and collects the raw data files from the `$MPSHOME/vpsN/stats` directory and creates binary files in the `$ASEHOME/stats` directory.
- In a multi-node environment, Avaya MPS Series can be configured for nodes at which PeriReporter does not reside (remote) as well as for the statistics collection node (local). Scripts run on the collection node only and are transferred from the remote nodes to the `$ASEHOME/stats` directory of the collection node.
    - System statistics generated at remote nodes are collected by each remote Avaya MPS Series' VSTAT process, transferred to the statistics node and stored in `sysstats` and `accstats` files.
    - System statistics generated by Avaya MPS Series configured for the statistics node (local) are collected by each local server's VSTAT process and stored in `sysstats` and `accstats` files. Two types of files are created by the script `pr-sys-v5.plx`.
        - `sysstats` - system statistics files by Avaya MPS, line, span, and host
        - `accstats` - system statistics files by time
    - The System Variables are predefined. Of the System Variables available, each report definition can specify only one of the following.
        - `System.VPS`
        - `System.Line`
        - `System.Host`
        - `System.Span`

      If one of the above system variables is chosen in a report then all variables for the report definition will be collected from `sysstats` files. Counters for the rest of the report definition can be any combination of remaining System Variables.

      These variables are usually mapped to the first column of a report in place of the date. When these variables are used, no column may be mapped to record the date. If one of these variables is chosen for a particular column and Date is chosen for another column an error message will appear.
    - With the exception of the above variables, report definitions can be mapped to any combination of Application and System Variables.

For additional information on mapping of columns for report definitions, see the ***Data Mapping*** section of this manual.

Application statistics are generated during an application's execution cycle and collected by each node's VSUPD process. One VSUPD process exists for each node.

- In a single node environment, all Avaya MPS Series exist on the same (local) node. Application statistics are collected by the node's VSUPD process and written to raw statistics files in the directory `$ASEHOME/stats`.
    - Application statistics generated at remote nodes are collected by each remote node's VSUPD process, transferred to the statistics node and stored in `appstats` files in `$ASEHOME/stats`. **The script `pr-app-v5.plx` is used to collect remote statistics for the application data.**
        - `appstats` - application statistics files
    - Application statistics generated by Avaya MPS Series configured for the statistics node (local) are collected by the node's VSUPD process and stored in `appstats` files.

To view these files, use the `vsupdump -f` command.

The VSUPD process must be running on all nodes at which applications are executing and statistics are to be collected. If VSUPD is not running on a node at which applications are executing, any statistics that are generated at that node will not be collected.

To run the VSUPD process, uncomment the VSUPD line within the `gen.cfg` file in the `$MPSHOME/common/etc` directory.

System and Application Statistics

Statistical data originates from user defined, application-specific stat events and system defined stat events.

System statistics and application statistics reports can be generated individually for each Avaya MPS, or for all units configured for the network.

On systems configured with more than one node, application statistics will be collected for all of the node's resources by a single VSUPD process. However, system statistics will be collected for each Avaya MPS by individual VSTAT processes.

System Statistics

System statistics report data related to phone line usage, digital span activity, and host interaction. System statistics are Avaya MPS-specific and include all statistics generated by all applications on each unit.

System stat events are predefined by Avaya. System statistical reports are predefined by Avaya and should not be modified without consulting Avaya. System statistics can be viewed with PeriReporter, which is used to select and generate a report.

VSTAT is the VOS (Voice Operating Software) process responsible for collecting system statistics. System stat events are maintained by stat event counters. Each Avaya MPS Series designates one counter for each unique occurrence of a specified event. System statistics are collected on a per Avaya MPS Series basis, by each unit's VSTAT process. At regular intervals, data is collected from each unit to the collection node and transferred to binary files, where it is stored on a per unit basis.

These files are located in `$ASEHOME/stats` and are called `sysstats` and `accstats`.

System Statistics Reports Summary

There are seven predefined System Statistics Reports.

Filename	Report
MPSPhoneDetail.prd	Detail Phone Line Statistics Report
MPSPhoneSum.prd	Summary Phone Line Statistics Report
MPSPhoneAcc.prd	Accumulated Summary Phone Line Statistics Report
SpanDetail.prd	Detail Span Statistics Report
SpanSum.prd	Summary Span Statistics Report
HostDetail.prd	Detail System Statistics Report
HostSum.prd	Summary System Statistics Report

The tables that follow summarize the contents of each of the previously mentioned predefined reports.

The following tables also describe the system counters for statistical collection and reporting for which individual columns can be mapped. These counters can be chosen in the System Variables section of the Data Mapping window.

For additional information on ***Data Mapping***, see the *PeriDefiner* section of this manual.

System Statistical Reports *Sheet 1 of 3*

SPAN REPORTS	
Span statistics indicate span activity for digital T-1 systems in both summary and detail format. Reports include the Span Detail Report and Span Summary Report.	
Type	
Detail	**SpanDetail.prd:** Data is reported for each span on selected or all Avaya MPS Series, for a specified range.
Summary	**SpanSum.prd:** Data is collectively summarized for all spans, for selected or all Avaya MPS Series, then reported for a specified date range. Data for each unit is summarized on a single line. Totals reflect span activity inclusive of all units.
Statistics	
Busy Seconds	**System.SpanBusy:** The number of seconds the span was in an in-service/busy state.
Errored Seconds	**System.SpanError:** The number of seconds the span was in an errored signal state. (The span could not take calls.)
Severe Seconds	**System.SpanSevere:** The number of seconds the span was in an errored signal state and the severity of the state was high. (The span could not take calls.)
Failed Seconds	**System.SpanFailed:** The number of seconds the span was in a failed signal state. (The span could not take calls.)
Yellow Seconds	**System.SpanYellow:** The number of seconds the span was in a yellow signal state. (The span could not take calls.)
Max Bit Change	**System.SpanMaxBit:** The number of “MAX a and b” bit changes per second that occurred on the span.
Degraded Minutes	**System.SpanDegraded:** This variable is not implemented at this time.

System Statistical Reports *Sheet 2 of 3*

PHONE LINE REPORTS

Phone line statistics indicate phone line usage in both a summary and detail format. Reports include the Phone Line Detail Report, Phone Line Summary Report, and Phone Line Accumulated Summary Report.

Type

Detail	**MPSPhoneDetail.prd:** Phone line usage is reported for selected or all Avaya MPS Series and phone lines, for a specified date range. Totals reflect usage per individual units.
Summary	**MPSPhoneSum.prd:** Data is collectively summarized for selected or all phone lines, then reported for selected or all Avaya MPS Series, for a specified date range. Data for each unit is summarized on a single line. Totals reflect usage inclusive of all units.
Accumulated Summary	**MPSPhoneAcc.prd:** Data is summarized per the time period specified by the user collectively for selected or all phone lines, then reported for selected or all Avaya MPS Series for the specified date–time range.

Statistics

MIS	**System.MIS:** Minutes In Service: The number of minutes the line was in an in-service state—connected and able to take calls.
%U	**System.Utilized:** Percent Utilization: The percentage of time the line was in a busy state—out of service or taking calls.
#CE	**System.Calls:** Number of Calls Ended: The total number of calls ended—irrespective of the termination process.
ACS	**System.ACS:** Average Call Seconds: The length of the average call—measured in seconds. While this is correct for a column within a report, the actual counter stores the data as the average multiplied by the total number of calls for that period.
UAB	**System.UAB:** User Abandoned Calls: The number of user abandoned calls—the user elects not to follow through with the call.
SAB	**System.SAB:** System Abandoned Calls: The number of system abandoned calls—the Avaya MPS Series application terminates the call.

PHONE LINE REPORTS - Statistics (continued)

SYSTEM REPORTS

System Statistics indicate overall system activity in both summary and detail format. Reports include the System (Host) Detail Report and System (Host) Summary Report.

Type

Detail	**HostDetail.prd:** Data is reported for selected or all Avaya MPS Series and external hosts for a specified date range.

System Statistical Reports *Sheet 3 of 3*

Summary	**HostSum.prd:** Data is cumulatively summarized by external host for selected or all Avaya MPS Series, then reported for a specified date range. Data for each unit is summarized on a single line. Totals reflect system activity inclusive of all units.
Statistics	
Total Calls	**System.TotalCalls:** The number of calls processed by selected or all Avaya MPS Series.
All Busy	**System.AllBusy:** The number of minutes that selected or all Avaya MPS Series were all in an in-service/busy state and not available to take calls.
# Messages to Host	**System.MessagesTo:** The detail report displays the number of messages sent to each host and the summary report displays the cumulative number of messages sent to all hosts per Avaya MPS Series.
# Messages from Host	**System.MessagesFrom:** The detail report displays the number of messages received from each host and the summary report displays the cumulative number of messages received from all hosts per Avaya MPS Series.

Application Statistics

Application-specific stat events are generated during an application's execution cycle. Application stat events must be defined within each application and identified as a stat event to VSUPD (the process responsible for collecting application statistics data). Application statistic reports may be defined to include system statistics data along with application-specific statistics.

VSUPD is the ASE (Application Services Environment) process responsible for collecting application-specific statistics. Application stat events are tracked by stat event counters. One counter must be defined for each unique occurrence of a specified event. On each node, counters are incremented as the corresponding events occur. Application statistics are collected on a per Avaya MPS Series basis (if they have been generated), by each node's VSUPD process (if it is running). Each hour, data is collected from each node and transferred to the statistics node, where it is stored in binary files on a per Avaya MPS Series basis in the `$ASEHOME/stats` directory and named `appstats`.

The VSUPD process must be running on each node where applications are executing and statistics are to be collected. If VSUPD is not running, statistics will not be collected.

Application-specific reports are created with the PeriDefiner component.

The Process of Defining Application Stat Events

Although the process of system statistics collection and reporting is transparent to the user, the process of application statistics collection and reporting is user dependent. Application stat events must be defined within each application and to the VSUPD process (on the node where the applications will execute). Once application stat events are defined, application statistics reports must be created, using PeriDefiner to first define the reports and then PeriReporter to subsequently generate the statistical information.

Application stat events are defined in PeriPro. The `vexdump` utility, with the `-s` option, can be used to create `.sre` files and move them into `$ASEHOME/copy`. These files can then be read by VSUPD.

Typically, the issues relating to application statistics are addressed during application development.

- The stat events that are to be collected must be defined within the application.
- Once defined in the application, statistics will be generated during the application's execution cycle. Before application stat events can be collected, they must be defined to the VSUPD process.

  Application stat events are defined using the `vexdump -s <appname>` command. A stat record code stub (`.sre`) file is created in the `$ASEHOME/copy` directory. This `.sre` file must be manually copied to the `$ASEHOME/copy` directory of all nodes where this application will be running.
- Application statistics that have been completely defined will only be collected if VSUPD is running on the node at which applications are executing and statistics are to be collected. If VSUPD is not running, any application statistics that are generated, will not be collected.

In a single node environment, all applications will be executing locally. In a multi-node environment, some applications may be executing on the statistics node while others may be on remote nodes. Each hour a collection script runs on the stats node and transfers the `appstats` files to the statistics node's `$ASEHOME/stats` directory. These `appstats` files are stored on a per Avaya MPS Series basis.

The PeriProducer Application

Application statistics are collected and stored using stat record code stub (`.sre`) files. Stat record code stub files must exist on each node at which application statistics are to be collected.

- Stat events are defined and stored in `appstats` files.
- Stat record code stub files (e.g. `strec#.sre`) contain stat event definitions, which are used by VSUPD during application statistics collection (regularly, at 15 minute intervals).

Example:

> If multiple instances of the same application are to execute on different nodes in the network, the stat record code stub files must be located on the statistics node as well as at all other nodes running applications for which statistics are to be collected.

The method by which stat record files are defined and code stub files are created is dependent upon how the application itself was created as well as on the network configuration.

Applications can be created with PeriProducer. PeriProducer is a graphical user interface (GUI) tool used to create and validate applications.

The following information on enabling application statistics collection and reporting is presented from the point of view of the type of development tool you are working with (PeriProducer) and the network configuration (single or multi-node).

PeriProducer

Stat events are defined, in an application, as special data cards (called counters) within a folder of scope statistics.

For additional information, see ***Gathering Application Statistics (Block Execution Statistics)*** on page 35.

`Vexdump`

The `vexdump` utility, with the `-s` option, is used to, initially, add the definitions from the Folder of Sevents to stat record files in `appstats`. This process both specifies the stat record file(s) and creates the stat record code stub (`.sre`) files.

Gathering Application Statistics (Block Execution Statistics)

You can customize each application to record the number of times any single block is executed during runtime.

Every 15 minutes, VSUPD broadcasts a statistics request to all executing applications and collects available application statistics. This statistics collection daemon stores these statistics for future reference.

To use block execution statistics (application statistics), create one or more Statistics folders (Folders of Sevents) for the application and special statistics data cards (called counters or stat events) for selected blocks. When PeriProducer executes the block during runtime, it increments counters (stat events) associated with that block by one; it does not re-initialize statistics folders when the application restarts. This allows statistics to accumulate over many calls.

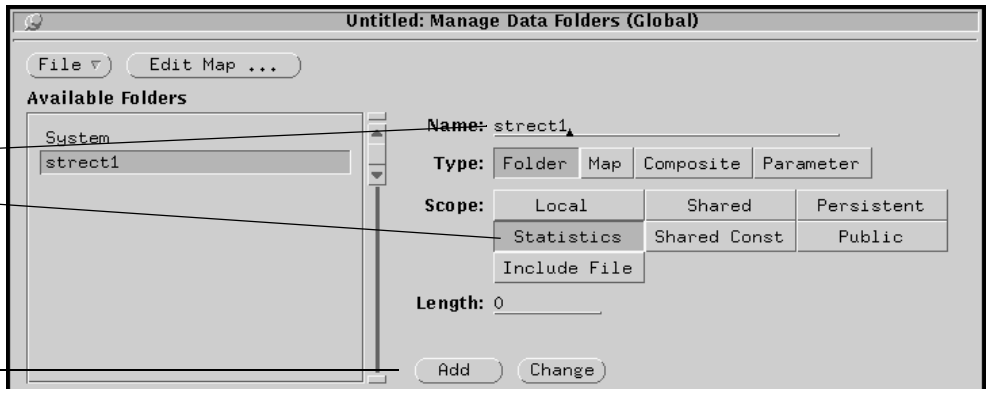
PeriProducer allows you to assign any legal name to Statistics folders.

If it is possible, use a single, unique statistics folder to gather the statistics from each application. For example, gather all the statistics for `application_1` in `strec1` and all the statistics for `application_2` in `strec2`.

Defining Application (Block Execution) Statistics

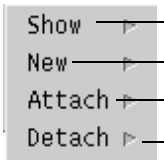
1. **Create a Statistics folder (Folder of Sevents) for the application**. From the Tool Kit, select Folders.

To use the system wide statistics collection utility, assign any legal name to the folder (e.g. name the Statistics Folders strec1, strec 2,...)
Select Statistics



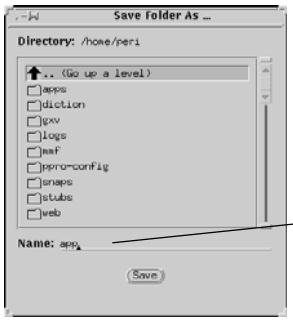
Select Add

2. **Access the Block menu for the block you want to reference**. Click <MENU> on the block in the construction area.
3. **From the Block menu, click <MENU> on Counters**. Select from the counter options:



Show the currently configured counters.
Create and attach a default counter to the selected statistics folder.
Select/Define a new counter. This counter must be numeric, length nine.
Detach an existing counter.

4. **Save the folder to a file**. Follow the menu path File—Save As.



Supply a descriptive name for the file. PeriProducer adds the suffix `.folder`

5. To create a basic report in PeriReporter, **copy the `.folder` file to a working directory on each node where PeriReporter is executing**.
6. To create a more detailed report in PeriReporter, **create a stat record code stub file by executing the following command:**

```
vexdump -s app.vex
```

7. **Copy the stat record code stub file (`strec#.sre`) from `$ASEHOME/copy` to `$ASEHOME/copy` on each node where PeriReporter is executing.**

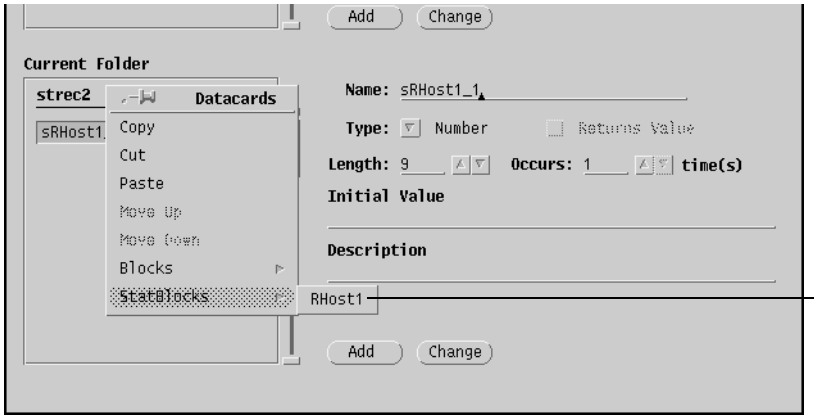
You can create multiple statistics folders (folders of sevents) for each application. This can be helpful, for instance, in an application that allows the caller to choose between English and Spanish. The Spanish blocks can increment counters in one folder

(`strec1`), while the English blocks increment counters in another (`strec2`).

Determining Blocks Associated With a Counter

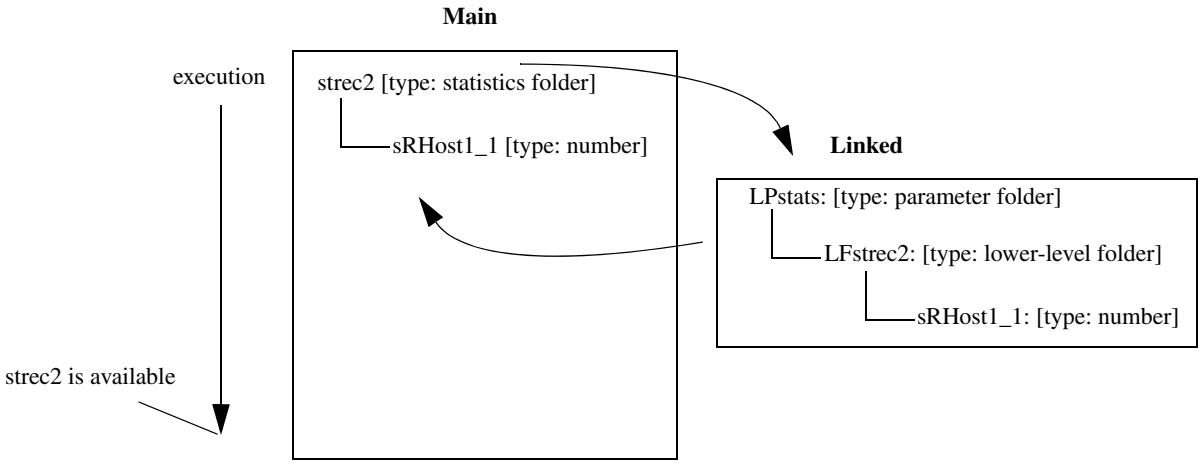
Use the global Manage Data Folders window to display the names of all the blocks in the application that use a particular data card as a counter.

First, select the folder that contains the data card. Next, click <MENU> on the data card name. Finally, from the hidden menu, click <MENU> on StatBlocks.



Passing Statistics Folders to a Linked Application

You can pass a statistics folder as a parameter to a linked application. In this case, the system *does not* make the statistics folder available to VSUPD when the linked application terminates, unless the linked application receives an explicit request from VSUPD. Instead, the system makes the statistics folder available when the main application terminates.



For further information about implementing linked applications, see the *PeriProducer User's Guide (#9090752 (I))*.

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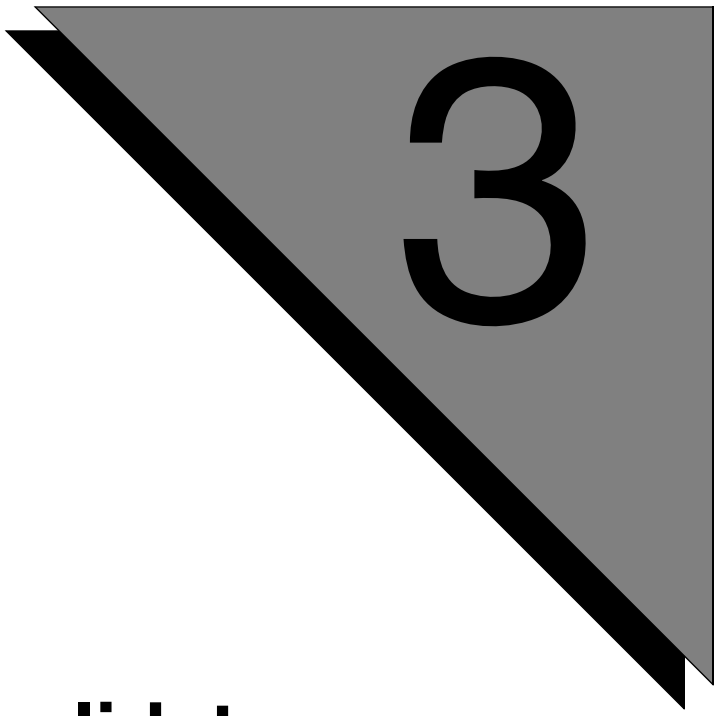


PeriConsolidator

This chapter covers:

1. **Purpose**
2. **Configuration**
3. **Command Line Options**

Purpose

PeriConsolidator reads in the binary application statistics files created by VSUPD and the binary system statistics files. These files are typically read in every evening and consolidated based on the PeriConsolidator `crontab` setup.

These files have six possible consolidation levels:

- 15 minute
- hourly
- daily
- weekly
- monthly
- yearly

PeriConsolidator should be set up to run daily through `crontab` during off-peak hours, when the Avaya Media Processing Server (Avaya MPS) Series system load is light. Every day the weekly, monthly, and yearly files will be consolidated through the current day.

Depending on the size of the Avaya MPS system, consolidation run-time will vary.

It is important to realize that there will be a level of detail lost each time a consolidation is performed.

A file of each defined type may be produced each day.

Setup

- Update `$MPSHOME/common/etc/vpshosts` to include all of the VASs and Avaya Media Processing Servers. The following programs should be set up in `crontab` upon installation.

Program	Frequency	Function
`pr_app_v5.sh`	hourly	collects application statistics from all VASs
`pr_sys_v5.sh`	hourly	collects system statistics from all Avaya MPS nodes
`PeriConsolidator`	nightly (at off-peak time)	consolidates statistics to specified level

At certain points in this manual, Avaya MPS Series (Avaya MPS) is analogous with Voice Processing Series (VPS). This is reflected in specific file names and directories, as well as certain software features.

Configuration

Stats File ("X" represents Avaya MPS number)	Content
appstats.X.MMDDYYHH accstats.X.MMDDYYHH sysstats.X.MMDDYYHH	15 minute data
Happstats.X.MMDDYYHH Haccstats.X.MMDDYYHH Hsysstats.X.MMDDYYHH	Hourly data consolidated by hour
Dappstats.X.MMDDYYHH Daccstats.X.MMDDYYHH Dsysstats.X.MMDDYYHH	Daily data consolidated by day (midnight to midnight)
Wappstats.X.MMDDYYHH Waccstats.X.MMDDYYHH Wsysstats.X.MMDDYYHH	Weekly data consolidated by day (Sunday through Saturday)
Mappstats.X.MMDDYYHH Maccstats.X.MMDDYYHH Msysstats.X.MMDDYYHH	Monthly data consolidated by day (First through last day of month)
Yappstats.X.MMDDYYHH Yaccstats.X.MMDDYYHH Ysysstats.X.MMDDYYHH	Yearly data consolidated by month (January through December)

When collecting data from a local system, "X" need not be used. When data is to be collected from a remote system, "X" is used as a parameter to identify that system.

Weekly data which is gathered mid-week will be consolidated up to that day. The next time a consolidation is run for that month the new data will overwrite the existing data. Monthly data which is gathered mid-month will be consolidated up to that date. The next time a consolidation is run for that month the new data will overwrite the existing data. Yearly data which is gathered mid-year will be consolidated up to that date. The next time a consolidation is run for that year the new data will overwrite the existing data.

You must wait for an ample amount of time for statistics to finish consolidating before attempting to generate a report.

Data Maintenance

Data maintenance can be performed automatically and is governed by both the period of time for which data is collected and the source from which data originated.

Parameters for Data Maintenance are set up in the `.conspr` file within your `$HOME` directory.

For additional information on Data Maintenance, see ***Parameters***.

Data maintenance is defined in the following two tables.

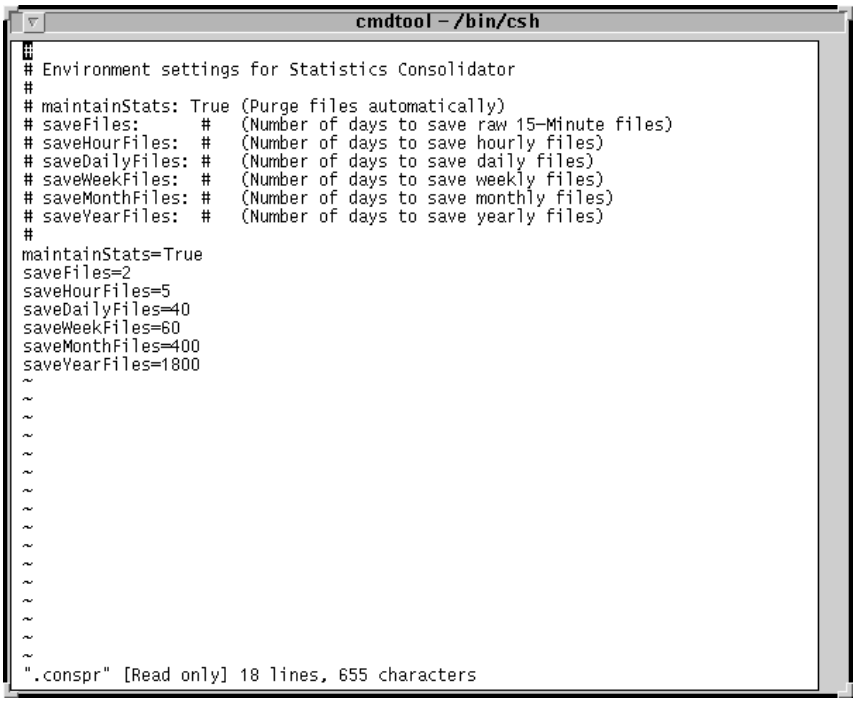
Data Period	Data Maintenance
For a 24 hour period	Data is maintained in 15 minute increments. Data is maintained in hourly increments. Data is maintained in daily increments.
For a weekly period	Data is maintained in daily increments. (Sunday - Saturday)
For a monthly period	Data is maintained in daily increments. (1st day - last day of month)
For a yearly period	Data is maintained in monthly increments. (Jan. - Dec.)

Data Source	Data Maintenance
System (Host) Statistics	Data is maintained on a per Avaya MPS basis. It is possible to report System Statistics for each unit configured for the network. System Statistics report data related to phone line usage, digital span activity, and host interaction.
Phone Line Statistics	Data is maintained on a per Phone Line basis. It is possible to report System Phone Line Statistics for each phone line assigned to each Avaya MPS in the network.
Span Statistics	Data is maintained on a per span basis. It is possible to report System Span Statistics for each span assigned to each Avaya MPS in the network. Span Statistics applies only to digital phone line system configurations.
Application Statistics and all User Defined Reports	Data is maintained on a per Avaya MPS basis.

Parameters

PeriConsolidator allows you to set configurable parameters to automatically handle file maintenance. These parameters are set up in the `.conspr` file. This will allow specification of the number of days files are saved before they are automatically deleted.

The `.conspr` file is located in the default PeriReporter home directory. To make changes to this file, make a copy and place it in your `$HOME` directory. Make all changes to the copied file, leaving the default file unchanged.



- Leaving the default setting, `True`, at the `maintainStats` command line will allow files to be maintained for a set number of days. These days can be customized by the user or left to the defaults. If no specified number of days is entered for a file type then the default takes precedence.
- Entering `False` at the `maintainStats` command line will disable maintenance of any files. PeriConsolidator will continue to collect data without removing any of the old files. Files will continue to be created until manually removed.

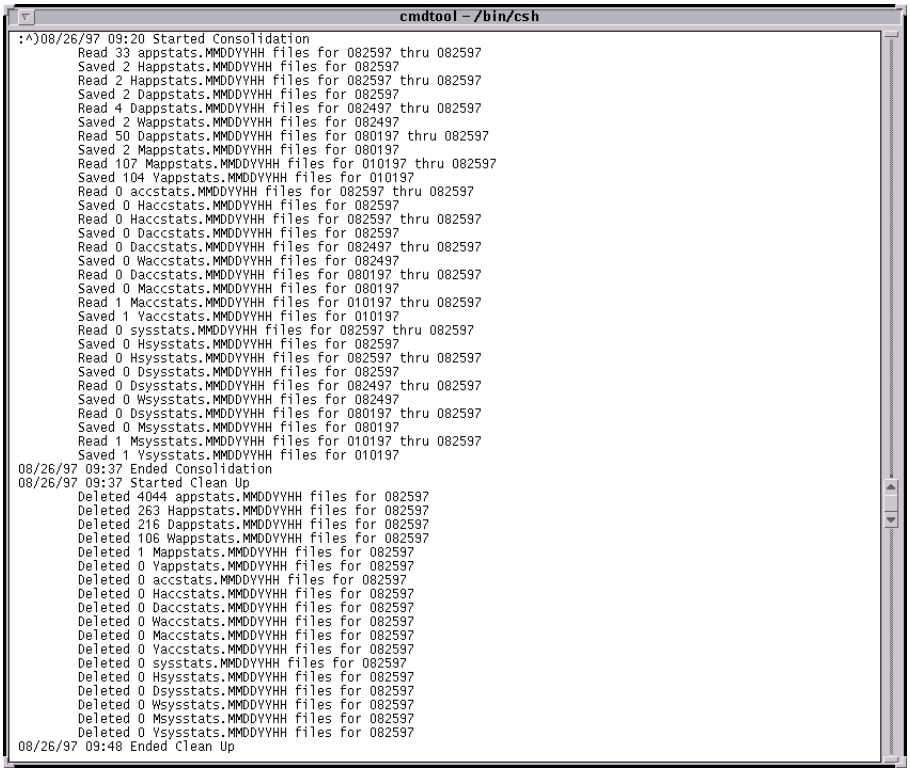
  The default number of days for each file type to be saved:

  15 minute - 2 days
  Hourly - 5 days
  Daily - 40 days
  Weekly - 60 days
  Monthly - 400 days
  Yearly - 1800 days

Logging

When PeriConsolidator runs it creates a log file named `pericons.log` which is stored in `$ASEHOME/stats`. The purpose of this log is to give a brief description of what data PeriConsolidator gathers and consolidates.

When the file size reaches 100K, the data is moved to `pericons.log.BAK` and another `pericons.log` is created.


cmdtool – /bin/csh
:^)08/26/97 09:20 Started Consolidation
Read 33 appstats.MMDDYYHH files for 082597 thru 082597
Saved 2 Happstats.MMDDYYHH files for 082597
Read 2 Happstats.MMDDYYHH files for 082597 thru 082597
Saved 2 Dappstats.MMDDYYHH files for 082597
Read 4 Dappstats.MMDDYYHH files for 082497 thru 082597
Saved 2 Wappstats.MMDDYYHH files for 082497
Read 50 Dappstats.MMDDYYHH files for 080197 thru 082597
Saved 2 Mappstats.MMDDYYHH files for 080197
Read 107 Mappstats.MMDDYYHH files for 010197 thru 082597
Saved 104 Yappstats.MMDDYYHH files for 010197
Read 0 accstats.MMDDYYHH files for 082597 thru 082597
Saved 0 Haccstats.MMDDYYHH files for 082597
Read 0 Haccstats.MMDDYYHH files for 082597 thru 082597
Saved 0 Daccstats.MMDDYYHH files for 082597
Read 0 Daccstats.MMDDYYHH files for 082497 thru 082597
Saved 0 Waccstats.MMDDYYHH files for 082497
Read 0 Daccstats.MMDDYYHH files for 080197 thru 082597
Saved 0 Maccstats.MMDDYYHH files for 080197
Read 1 Maccstats.MMDDYYHH files for 010197 thru 082597
Saved 1 Yaccstats.MMDDYYHH files for 010197
Read 0 sysstats.MMDDYYHH files for 082597 thru 082597
Saved 0 Hsysstats.MMDDYYHH files for 082597
Read 0 Hsysstats.MMDDYYHH files for 082597 thru 082597
Saved 0 Dsysstats.MMDDYYHH files for 082597
Read 0 Dsysstats.MMDDYYHH files for 082497 thru 082597
Saved 0 Wsysstats.MMDDYYHH files for 082497
Read 0 Dsysstats.MMDDYYHH files for 080197 thru 082597
Saved 0 Msysstats.MMDDYYHH files for 080197
Read 1 Msysstats.MMDDYYHH files for 010197 thru 082597
Saved 1 Ysysstats.MMDDYYHH files for 010197
08/26/97 09:37 Ended Consolidation
08/26/97 09:37 Started Clean Up
Deleted 4044 appstats.MMDDYYHH files for 082597
Deleted 263 Happstats.MMDDYYHH files for 082597
Deleted 216 Dappstats.MMDDYYHH files for 082597
Deleted 106 Wappstats.MMDDYYHH files for 082597
Deleted 1 Mappstats.MMDDYYHH files for 082597
Deleted 0 Yappstats.MMDDYYHH files for 082597
Deleted 0 accstats.MMDDYYHH files for 082597
Deleted 0 Haccstats.MMDDYYHH files for 082597
Deleted 0 Daccstats.MMDDYYHH files for 082597
Deleted 0 Waccstats.MMDDYYHH files for 082597
Deleted 0 Maccstats.MMDDYYHH files for 082597
Deleted 0 Yaccstats.MMDDYYHH files for 082597
Deleted 0 sysstats.MMDDYYHH files for 082597
Deleted 0 Hsysstats.MMDDYYHH files for 082597
Deleted 0 Dsysstats.MMDDYYHH files for 082597
Deleted 0 Wsysstats.MMDDYYHH files for 082597
Deleted 0 Msysstats.MMDDYYHH files for 082597
Deleted 0 Ysysstats.MMDDYYHH files for 082597
08/26/97 09:48 Ended Clean Up

By default, PeriConsolidator Logging is turned on. It can be turned off by typing `-n` at the command line.

pchistory.log

In order to keep track of the last day in which PeriConsolidator successfully ran, a file in the `$ASEHOME/stats` directory, called `pchistory.log`, is used. After each successful execution of PeriConsolidator, the date last ran is appended to this file. Before any subsequent run starts, PeriConsolidator checks this date. If any days are missing, it will run for those days, appending the file as it runs.

Command Line Options

Option	Function
`PeriConsolidator`	Run consolidation for previous day
`PeriConsolidator -d MMDDCCYY`	Run consolidation for specified date
`PeriConsolidator -n`	Turn off Logging
`PeriConsolidator -s`	Show `.conspr` file settings
`PeriConsolidator -version`	Show current Version running
`PeriConsolidator -h`	Show help message

If you re-run PeriConsolidator for any day using the `-d` option, the `pchistory.log` file will be appended, causing other days to be re-run.

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4

PeriDefiner

This chapter covers:

1. **Purpose**
2. **PeriDefiner Tool Bar**
3. **Open a Report Definition**
4. **Defining a Report**
5. **Options**

Purpose

PeriDefiner is a graphical utility which is used to set up the contents and the display of a specific report. It allows you to map statistics variables to columns of data. Each column can have its own heading in relation to the data to be displayed there.

For each column which is mapped to a variable, you can specify the allowable range for the variable, sort the data in that column by ascending or descending order, and set which columns take precedence over others.

Launch PeriDefiner

You can choose to launch PeriDefiner in one of two ways - by typing `PeriDefiner` at the command line, or through PeriReporter.

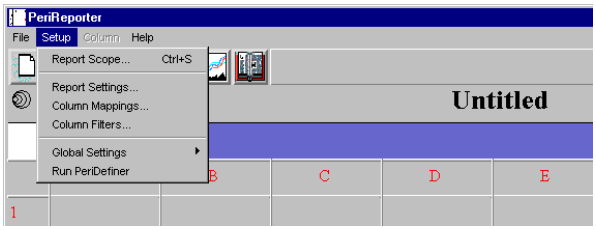
Launch PeriDefiner through PeriReporter

Launch PeriDefiner by first launching PeriReporter. Once PeriReporter is open, launch PeriDefiner. You can do this using either the menu options or the tool bar.

Open PeriDefiner from the menu bar

Select:

- Setup
- Run PeriDefiner



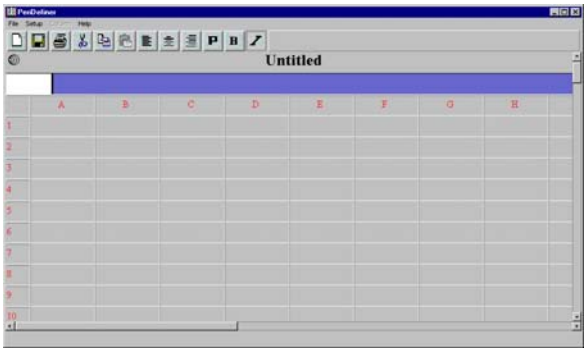
Open PeriDefiner from the tool bar

Click:

- PeriDefiner button

PeriDefiner launches

Begin defining report



PeriDefiner Tool Bar

PeriDefiner contains a tool bar at the top of its graphical display. This consists of buttons which can be clicked to perform specified functions within the program. Many of these functions can also be initiated through the program's pull-down menus.

At certain points in this manual, Avaya Media Processing Server (Avaya MPS) Series is analogous with Voice Processing Series (VPS). This is reflected in specific file names and directories, as well as certain software features.

Open - Opens a previously created report, in which changes can then be made.

Save - Used to save changes made to a new or previously created report.

Print - Used to print a filled report or report definition. This function will list columns along with their headings, assigned Avaya MPS/VPS numbers, etc. No true statistical data will appear in these printouts.

Cut - An editing tool used to remove a column or cell from the report and place it in the clipboard for later use.

Copy - An editing tool used to reproduce an existing column or cell which has been placed in the clipboard.

Paste - An editing tool used to move a cut or copied column or cell from the clipboard and insert it preceding the current column.

Left Justify - Moves all text and numbers within a specified column to the left-most side of the cells.

Center Justify - Moves all text and numbers within a specified column to the center of the cells.

Right Justify - Moves all text and numbers within a specified column to the right-most side of the cells.

Plain - Causes all text and numbers in a specified column or cell to display with normal font.

Bold - Causes all text and numbers in a specified column or cell to display with bold font.

Italics - Causes all text and numbers in a specified column or cell to display with italicized font.

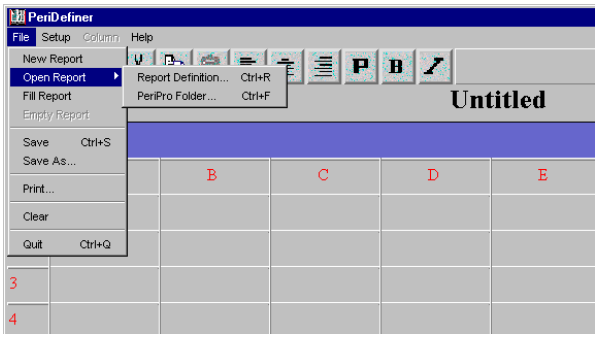
Open a Report Definition

You can choose to begin a new report definition or modify an existing report definition. Open an existing report definition from the File menu or tool bar.

Open an existing report definition or PeriPro folder from the menu bar

Select:

- File
- Open Report
- Report Definition...
  or
- PeriPro Folder...



Open an existing report definition from the tool bar

Click:

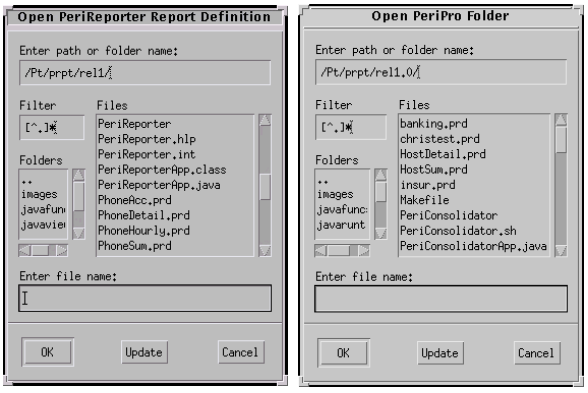
- Open button

Choose the specified report from the corresponding window

Select:

- Folder
- File
- Click OK

The specified report definition opens and parameters can now be modified.



When opening a PeriPro folder, a pre-determined report definition is opened along with it. This definition can then be changed through the following steps, as if creating a new report definition, or modifying an existing definition.

Defining a Report

Defining a report is a 6 step process.

1. Save the Report Definition
2. Update the Report Settings
3. Define Column Formulas and Mappings
4. Update Individual Columns and Cells (optional)
5. Define Subtotals (optional)
6. Define Totals (optional)

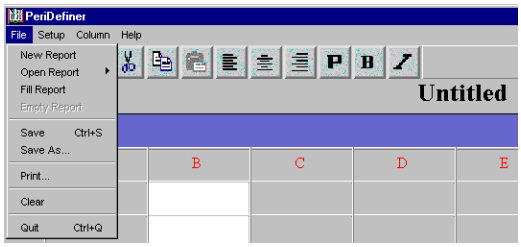
Save the Report Definition

It is important to remember to save your Report Definition periodically as you proceed through the following steps. You can save the report definition by using either the file menu or the tool bar.

Save the Report Definition from the File Menu

Select:

- File
- Save/Save As...



Save the Report Definition from the tool bar

Click:

- Save button

Determine If Any Unsaved Changes Have Taken Place

If changes have not been saved, the symbol in the top, left corner of the report screen, just below the Open button, will be Red. If a save has been made, the logo will be Black.

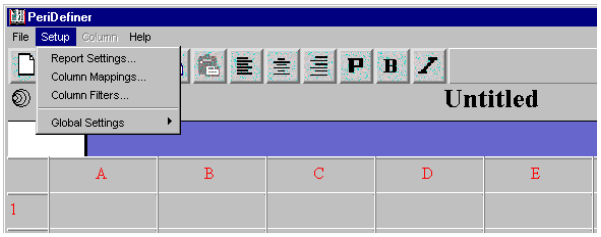
Update the Report Settings

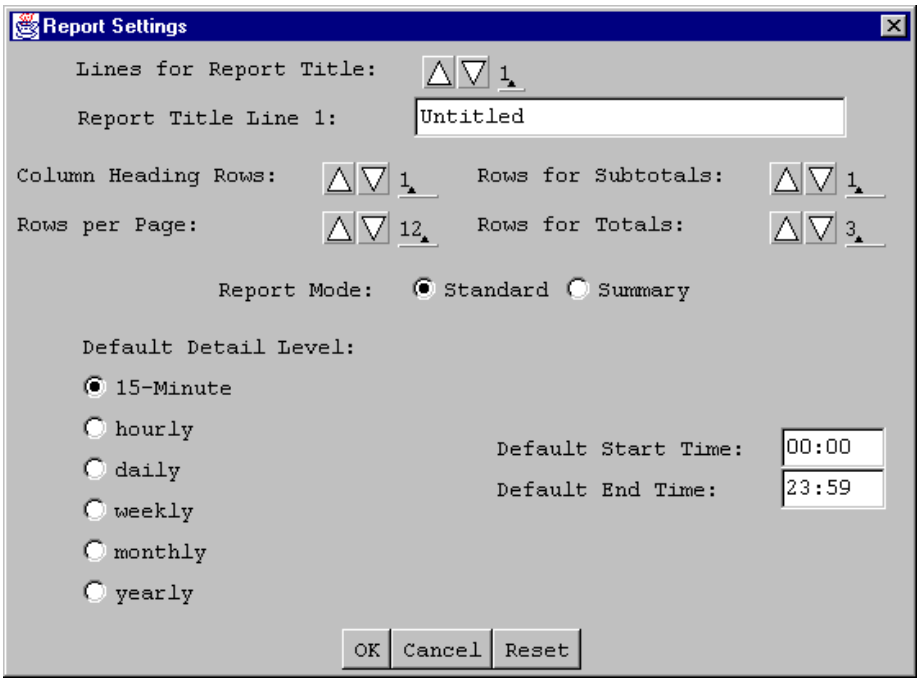
Use the Report Settings window to determine what your generated report will look like. Here you can set Report Title, number of rows used for various purposes, the Report Mode (Standard or Summary), the Detail Level, and the Start and End Time.

Open the Report Settings window from the menu bar

Select:

- Setup
- Report Settings...





Lines for Report Title

Enter the number of lines to be made available to enter a report title by clicking on the up and down arrows or by typing in a number. The maximum number of lines allowed is 5. Each line can have a separate title or be left blank.

Report Title

Enter the title of the report which is to appear at the top of each printed page of the report. If more than one line has been designated for the report title, choose OK and then reopen Report Settings. Additional areas for Report Titles will now be present.

Column Heading Rows

Enter the number of rows to be made available to enter a column heading by clicking on the up and down arrows or by typing in a number.

Rows per Page

Enter the number of rows to be displayed on each page of the report by clicking on the up and down arrows or by typing in a number. Each row will typically represent one time interval of the specified consolidation level. A report page will contain the specified number of rows, ending in a Subtotal row. This will continue to the end of the report where a Total row will then be displayed.

Rows for Subtotals

Enter the number of rows to be used to display subtotals at the bottom of each page of the report by clicking on the up and down arrows or by typing in a number.

Rows for Totals

Enter the number of rows to be used to display totals at the end of the report by clicking on the up and down arrows or by typing in a number.

Report Mode

Report mode is Standard or Summary.

Standard mode means that report data will be displayed by individual time periods in chronological, or Key Priority, order. For example, a report set to consolidate for 15 minute intervals will display data in one row for each 15 minute period of the day. Most reports will be in Standard mode.

Summary mode processes multiple days of data and totals them with corresponding time periods from all included days. For example, a report set to consolidate in hourly intervals in Summary mode will gather the data from each day and display the totals from each hour in its corresponding row. This is useful if you would like to find out the busiest time period of a given week, month or year.

Standard is the default mode.

Default Detail Level

Enter the type of report that will act as a default when opening this report definition.

Detail level can be overridden in PeriReporter.

Default Start/End Time

Enter the Start and End time, which will act as the default when this report definition is opened, by typing the time in the boxes. Enter time in 24-hour military format.

Start and End time can be overridden in PeriReporter.

Define Column Formulas and Mappings

Defining Column Formulas and Mappings are the most important part of defining a report.

Column Formulas

Column Formulas allow you to determine what will be represented by a specific column. Column Formulas include:

v	Float or Integer value
l	Text label
=	Mathematical Expression (example- A2+B2)
@	Function (SUM, TOT, AVG, TAVG, MIN, TMIN, MAX, TMAX)

Functions

Function	Parameters	Example	Result
@SUM	2 cells that share a common row or column; Column letter	@SUM(A3,D3) @SUM(A)	Adds up all data in specified cells or column
@TOT	Column letter	@TOT(A)	Adds up all data excluding heading, subtotal and total rows
@AVG	2 cells that share a common row or column	@AVG(A3,D3)	Adds up all data within the specified cells and produces average
@TAVG	Column letter	@TAVG(A)	Adds up all data excluding heading, subtotal and total rows and produces average
@MIN	2 cells that share a common row or column	@MIN(A3,D3)	Finds the smallest number within the range of specified cells
@TMIN	Column letter	@TMIN(A)	Finds the smallest number excluding title, subtotal and total rows
@MAX	2 cells that share a common row or column	@MAX(A3,D3)	Finds the largest number within the range of specified cells
@TMAX	Column letter	@TMAX(A)	Finds the largest number excluding title, subtotal and total rows

To Enter a Column Formula

To designate a Value, Label, Expression, or Function to a column, highlight the entire column by clicking on the column letter. At this point all cells in the column will appear white. You can then enter text which will appear as black text in the blue input area at the top of the report. Type the character which identifies the type of Formula, followed immediately by the contents. Hit return and all applicable cells in the column will be updated.

Examples

Formula	Updated Column	Example
v123	123	
lAugust 20, 1997	August 20, 1997	
=A2+B2+C2 (add) =A2-B2 (subtract) =A2*B2 (multiply) =A2/B2 (divide) =A2%B2 (modulus)	Sum of cells A2, B2, and C2 Difference between cells A2 and B2 Product of cells A2 multiplied by B2 Quotient of cells A2 divided by B2 Remainder after A2 is divided by B2	15+4+6=25 23-14=9 17*3=51 42/6=7 20%3=2
@TOT(A)	The sum of column A, excluding heading, subtotal, and total rows	

When entering an Expression or a Function, if you want the value calculated on a row by row basis, and not by individual cells, do not enter a specific row number. For example, to add columns A and B enter the formula as *=A+B*. Each cell of that column will sum the A and B values from the row in which they reside.

Data Mapping

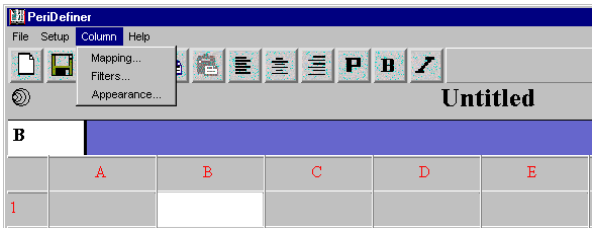
Use the Data Mapping window to specify what data will be shown in individual columns. This can be the date and time period for each row on the generated report or statistical information.

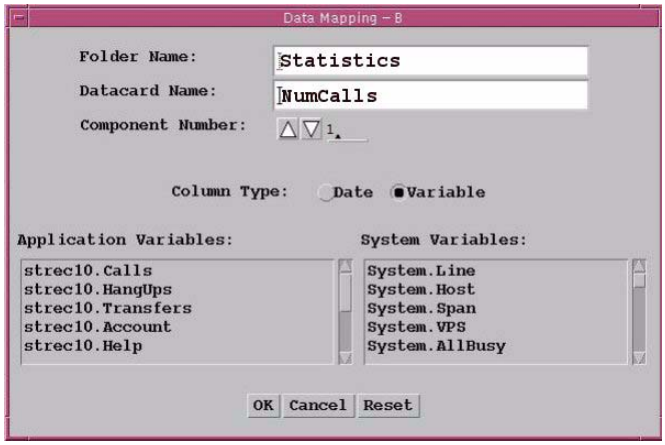
To open the Data Mapping window, click on a column letter to highlight the column. The Column menu will now be enabled on the menu bar.

Open the Data Mapping window from the menu bar

Select:

- Column
- Mapping...





Column Type

Column Type will determine what type of information will be displayed in a specific column - Date or Variable.
If Date is chosen than no other information can be entered in this window. The chosen column will display the date and time period of the statistical data for each row of the report being generated.
If Variable is chosen then all other information must be entered in this window.

Folder Name

The Folder Name is the folder that contains the datacard that may be desired for the specified column. Folders containing Application Variables are created in PeriPro. System Variables are predefined counters which are automatically incremented by the system.

For additional information, see the *PeriProducer User's Guide (9090752(1))*.

Datacard Name

The DataCard Name identifies the sub-folder, contained in the previously specified folder, that contains the information desired for the chosen column.

For additional information, see the *PeriProducer User's Guide (9090752(1))*.

Avaya MPS/VPS Number

Enter the Avaya MPS/VPS number from which you would like the statistics to be generated. Entering *0* will gather data from all available Avaya MPSs/VPSs. If an Avaya MPS/VPS number is designated for this report within the PeriReporter component, then that choice will override any Avaya MPSs/VPSs chosen here.

Application Variables and System Variables

The Application Variables and System Variables include all currently available variables on the system. Double clicking on an item will automatically fill in the data in the Folder Name and Datacard Name sections of the window.

- The available Application Variables are determined from the `$ASEHOME/copy` directory. PeriDefiner reads in any files ending with `.sre`.

- The System Variables are predefined. Of the System Variables available, each report definition can have only one of the following.

  ```
  System.VPS
  System.Line
  System.Host
  System.Span
  ```

  If the report is based on one of the above variables then all variables for the report definition will be collected from `sysstats` files. Counters for the rest of the report definition can be any combination of remaining System Variables.

  These System Variables are usually mapped to the first column in place of the date. When these variables are used, no column may be mapped to record the date. If one of these reports is chosen for a particular column and Date is chosen for another column, an error message will appear.

- With the exception of a report based on one of the above System Variables, report definitions can be mapped to any combination of Application and System Variables.

Update Individual Columns and Cells

Update Individual Columns

Aside from assigning a value, label, expression, or function to a column you may also choose other options. In Display Filters these include naming the column, choosing an allowable range of data, choosing which column's data gets precedence over another, picking an ascending or descending order for data, or choosing to hide a column's data in a generated report. In Column Appearance these include column width, number of decimal positions allowed in data and appearance of data.

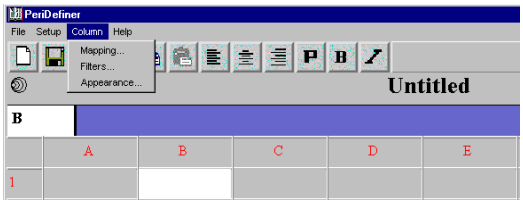
Display Filters

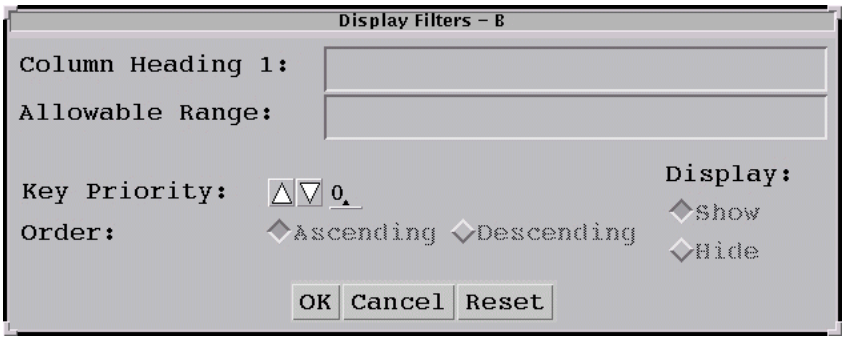
To open the Display Filters window, click on a column letter to highlight the column. The Column menu will now be enabled on the menu bar.

Open the Display Filters window from the menu bar

Select:

- Column
- Filters...





Column Heading

Column Heading is where the name of each column, to be displayed at the top of each page of the report in the Column Heading Row, is entered. If more than one Column Heading Row was chosen in the Report Settings window then that amount of Column Heading entry boxes will be displayed. Type in the column heading. You may use as long a name as you like, keeping in mind the column width. If the amount of characters exceeds the space of the column then a series of question marks (??????????) will be displayed in place of the heading. If this happens, increase Column Width.

For additional information on setting column width, see the ***Column Appearance*** section of this manual.

Key Priority

Key Priority allows you to choose which columns take precedence over others. This is

accomplished by assigning a priority number to each column that is to be sorted. Entering a zero will not assign the column to a Key Priority and it will be sorted normally. Lower numbered Key Priorities will be given precedence over higher numbered or zero Key Priorities. Each column must have a unique Key Priority, unless it is entered as zero. Enter a Key Priority by clicking on the up and down arrows or typing in a number.

Order

The Order field only has meaning if a non-zero Key Priority is chosen. This will determine if the column's data is to be sorted in an Ascending or Descending order.

Display

This function will allow a specified column to be hidden from view. Show is the default setting for all columns. To prevent a column from appearing on a report click Hide. This is useful if you would like to perform calculations in a column that you do not want to display in a generated report. In PeriDefiner a hidden column will display in black. Hidden columns will not appear at all in the PeriReporter component or in a generated report.

Allowable Range

Allowable Range accepts a simple expression, signaling whether certain data should be included in the column. If the data satisfies the expression, then it is included; if it does not, then it, and the entire row it resides in, is omitted from the report.

Expression	Meaning	Example
<	Include numbers Less than...	# < 10 Include only numbers Less than 10
>	Include numbers Greater than...	# > 10 Include only numbers Greater than 10
=	Include numbers Equal to...	# = 10 Include only numbers Equal to 10
<=	Include numbers Less than or Equal to...	# <= 10 Include only numbers Less than or Equal to 10
>=	Include numbers Greater than or Equal to...	# >= 10 Include only numbers Greater than or Equal to 10
AND	Combine two of the above expressions	# < 10 AND #> 5 Include only numbers Less than 10 AND Greater than 5 (include numbers within that range)
OR	Combine two of the above expressions	# < 10 OR #> 20 Include only numbers Less than 10 OR Greater than 20 (leave out all numbers in between that range)

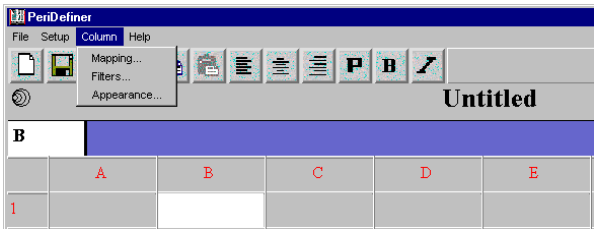
Column Appearance

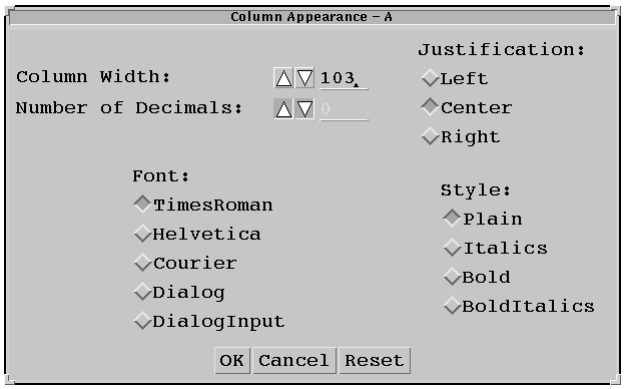
To open the Column Appearance window, click on a column letter to highlight the column. The Column menu will now be enabled on the menu bar.

Open the Column Appearance window from the menu bar

Select:

- Column
- Appearance...





Column Width

Column Width determines how wide the cells of the column will be. If a Column Heading or value does not fit in the allotted column size a series of question marks (??????????) will be displayed. If this happens, increase the Column Width. Enter the Column Width by clicking on the up and down arrows or typing in a number. The default setting is 103 units.

Number of Decimals

Number of Decimals allows you to set how much detail for the data to display by specifying the amount of decimal positions. Make sure the Column Width is set wide enough to account for the Number of Decimals. Enter the Number of Decimals by clicking on the up and down arrows or typing in a number.

Justification

Justification determines the visual placement of data in the column. The choice is Left, Right or Center.

Font and Style

Both Font and Style determine the look of the data and heading of a column. Choose Font type and Style of that particular font by clicking on the respective buttons.

Update Individual Cells

Any individual cell can have its contents set to a value, label, expression, or function, as long as the column in which it resides is not already defined. To update a cell, highlight the cell and update its contents in the same fashion as entering a Column Formula. When a cell is selected, its current contents are displayed in the blue input area at the top of the report in white text. The default content of any cell is a value, so if the cell is currently empty a “v” will appear in the input area.

Define Subtotals

To define Subtotals, scroll down the report until you come to the rows in green. These cells are where subtotals will be displayed. Subtotals appear at the end of every page of the report. To enter Subtotal information, highlight a cell defined as Subtotal and update its contents in the same fashion as entering a Column Formula using the @SUM(*column letter*) function. When defining a Subtotal the text in the blue input area at the top of the report will be white. Hit return and the cell will be updated.

Subtotal row colors are configurable. If the color has been adjusted then they will appear on screen as the color last set. Configure screen colors from the ***Screen Colors*** window.

Define Totals

To define Totals, scroll down the report until you come to the rows in blue. These cells are where totals will be displayed. Totals appear at the end of the generated report. To enter Total information, highlight a cell defined as Total and update its contents in the same fashion as entering a Column Formula using the @TOT(*column letter*) function. When defining a Total, text in the blue input area at the top of the report will be white. Hit return and the cell will be updated.

Total row colors are configurable. If the color has been adjusted then they will appear on screen as the color last set. Configure screen colors from the ***Screen Colors*** window.

If you would like a total or subtotal for the entire column, enter only the column letter after the function.

Options

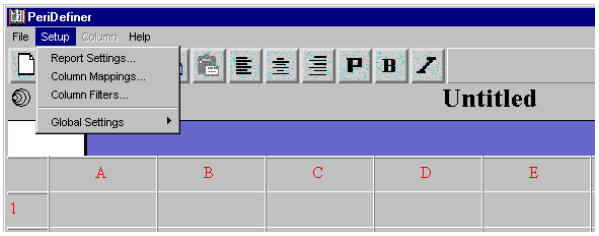
Column Mappings

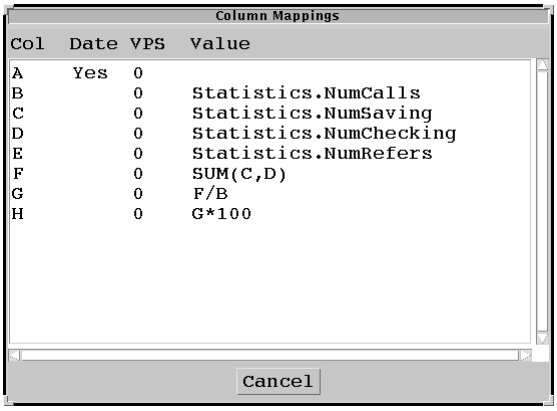
The Column Mappings window allows you to view the parameters that have been set to all columns at the same time. To open the Column Mappings window, use the menu bar.

Open the Column Mappings window from the menu bar

Select:

- Setup
- Column Mappings...





The report definition shown in the above example has column **A** mapped to a Date. Column **F** is mapped to the SUM function. Columns **G** and **H** are mapped to calculate mathematical expressions. The remaining columns are mapped to variables and are set to record Application Statistics. All columns are mapped to record data from all available Avaya MPSs/VPSs. No editing can be done in the Column Mappings window.

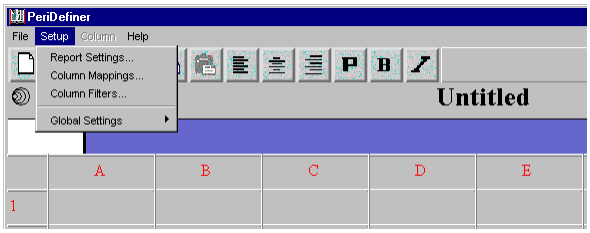
Column Filters

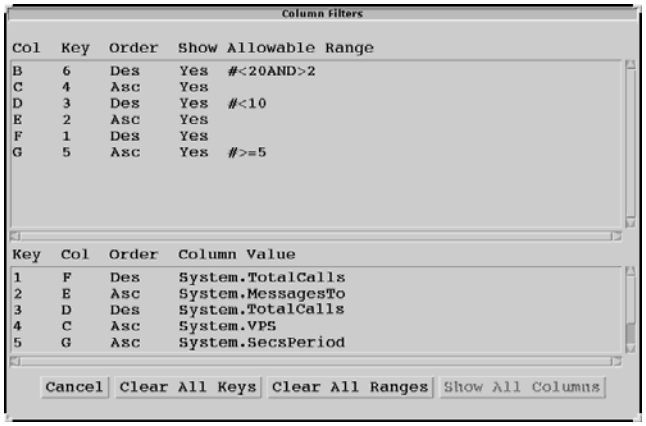
The Column Filters window allows you to view the filters assigned to all columns with an Allowable Range and/or Key Priority and to see if the columns are to be Shown or Hidden, at the same time. To open the Column Filters window use the menu bar.

Open the Column Filters window using the menu bar

Select:

- SetUp
- Column Filters...





The report definition shown in the above example has columns **B**, **D** and **G** set to an Allowable Range. All other columns will gather all data from their assigned places regardless of value. The window also shows which columns will be sorted to display data in Ascending and Descending order along with Key Priority and whether a column is to be Hidden or Shown.

The top sub-window displays the columns in column order. The bottom sub-window displays columns according to Key Priority.

Clear All Keys

The Clear All Keys button will remove all current Key Priorities. If no columns are set with Key Priorities then the button will not be enabled. A window prompt will appear after choosing this option asking for confirmation.

Clear All Ranges

The Clear All Ranges button will remove all current Allowable Ranges. If no columns are set for Allowable Ranges then the button will not be enabled. A window prompt will appear after choosing this option asking for confirmation.

Show All Columns

The Show All Columns button will make all Hidden columns visible in the report definition. If no columns are set to Hide then the button will not be enabled. A window prompt will appear after choosing this option asking for confirmation.

Global Settings

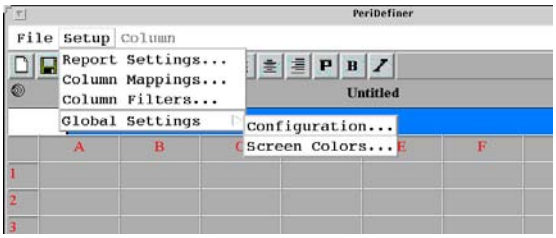
The Global Settings window allows you to set the maximum number of rows, columns and preview intervals for all report definitions. Select Global Settings using the Setup menu.

Any changes made in Global Settings are saved in the `.perireporter` file.

Open the Global Settings window from the menu bar

Select:

- Setup
- Global Settings
- Configuration...



Installation Site

Enter the name of the site from which these reports are to be generated. This will identify different reports from different locations. This is useful in keeping track of reports if there are several sites from which data is collected. You may enter any desired text to help in identifying each individual report. The Installation Site will appear on the first page of each printed report.

The inclusion of an Installation Site is optional.

Number of Rows

Enter the maximum number of rows that the report will consist of by clicking on the up and down arrows or typing in a number.

Be sure to allow enough rows for the report to complete running. If the report runs out of room PeriReporter will attempt to make the proper adjustments to accommodate the report. If this can not occur, a warning message will appear indicating how many rows are needed to finish generating the entire report.

Number of Columns

Enter the maximum number of columns of statistical data that the report will consist of by clicking the up and down arrows or typing in a number.

Preview Intervals

Enter the number of rows of statistical data that will be shown when Preview is chosen from the PeriReporter tool bar by clicking the up and down arrows or typing in a number. Each row represents one time interval of the generated report.

After changes are made in the Global Settings window a pop-up screen will appear asking if you would like to save the changes you have made to this report definition if you have not previously performed a save.

Any Global Setting changes made here will affect all report definitions.

Screen Colors

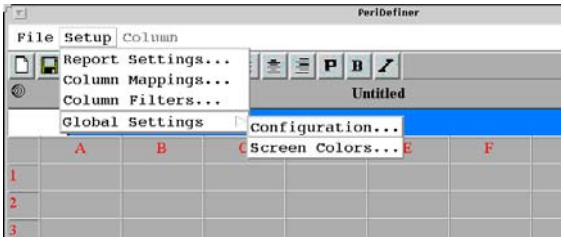
The Screen Colors window allows you to change the color of specific areas of all report definitions. Access the Screen Colors window using the Setup menu.

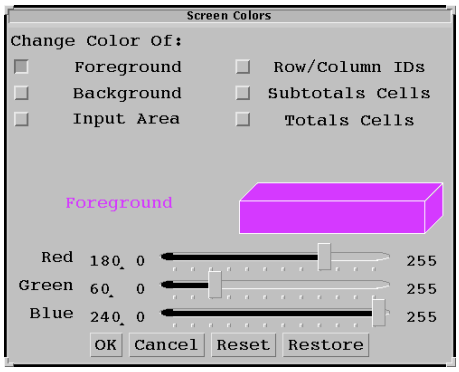
Any changes made in the Screen Colors window are saved in the `.perireporter` file.

Open the Screen Colors window from the menu bar

Select:

- Setup
- Global Settings
- Screen Colors...





Change Color

Click on the button next to the area of which you would like to change the color. The current color setting will appear in the sample cube in the middle of the window. Change the color by adjusting the Red, Green, and Blue slide bars at the bottom of the window. To the right of each bar is the maximum setting. To the left of each bar is the setting the bar is currently at. Pressing the Reset button will set all colors back to where they were when the window was opened. After adjusting colors, click OK.

When report colors are modified, these changes will only take place on-screen. Printed reports will remain in black and white.

Make sure not to set the Foreground and Background colors to the same settings. If this happens the report will appear all one color and no data will be visible. Return to the Screen Colors window and click the Restore button. Then re-adjust colors.

Any Screen Color changes made here will affect all report definitions.

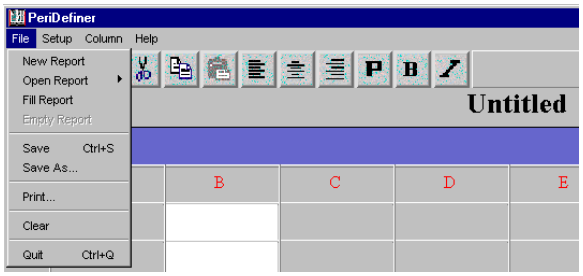
Fill/Empty Report

Selecting Fill Report will insert sample data into one page of the open report definition. This will give you an idea of what the generated report will look like. To clear sample data from a report definition, select Empty Report. Select Fill/Empty Report using the file menu.

Choose Fill/Empty Report from the menu bar

Select:

- File
- Fill Report
  or
- Empty Report



Saving a filled report definition will cause the sample data to be removed from all cells before the save takes place.

Print the Report Definition

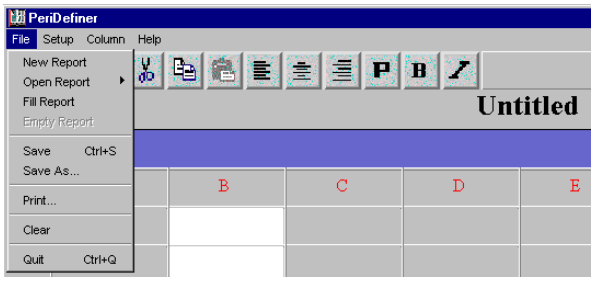
You can choose to print the filled report definition to see what a generated report will look like or print the definition itself to see how each column is mapped. Open the Print Setup window from the File menu or the tool bar.

Any changes made in the Print Setup window are saved in the `.perireporter` file.

Open the Print Setup window from the menu bar

Select:

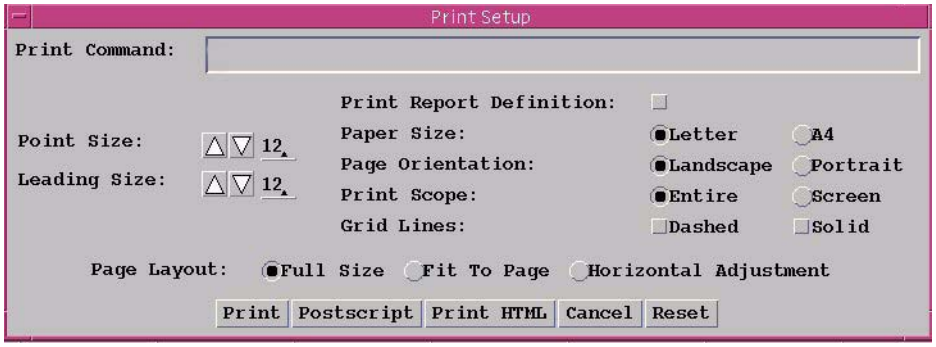
- File
- Print...



Open the Print Setup window from the tool bar

Click:

- Print button



Print Command

Enter the printer destination of the document to be printed. This is the same command that would be entered elsewhere on your system to allocate a specific printer.

Point Size

Point Size controls the size of the data to be displayed in the printed report definition. Change the Point Size by clicking on the up and down arrows or typing in a number.

Point Size is disabled if Print Report Definition is chosen.

Leading Size

Leading Size controls the vertical size of the cells in the printed report definition. Change the Leading Size by clicking the up and down arrows or typing in a number.

Leading Size is disabled if Print Report Definition is chosen.

Be careful not to make the Point Size larger than the Leading Size. If this happens, the data will overflow out of the cells, making the printed report definition difficult to read.

Print Report Definition

Choosing this option will print a table labeling the column mappings, formulas, and styles. An example of this table is below.

Col.	Heading	Mps#	Date	Folder	Variable	Formula	Key
A	Date	0	T				0
B	# of Calls	0	F	Test	Calls		0
C	Total	0	F		Total	SUM(B,G)	0

Order	Range	Show	Dec.	Align	Height	Width	FontStyle
A		true	0	C	33	131	TimesRoman
B	#>20	true	0	C	33	103	TimesRoman Italic
C		true	0	C	33	103	TimesRoman Bold

Choosing Print Report Definition will also create a table labeling the Subtotal and Total rows, along with any Special Cells that may be mapped. An example of this table is below.

Column:	Subtotals Rows:	Totals Rows:	Special Cells:
A	Subtotal	Total	
B	SUM(B)	TOT(B)	
C	SUM(C)	TOT(C)	B4+C6

Turning off the Print Report Definition button will allow the report to be printed so you may see what it will look like once it is generated. You may also print the report with Filled data.

The default setting in PeriDefiner is for the Print Report Definition button to be on.

Paper Size

Page Size allows you to choose the paper the report definition will be printed on. Letter is standard 8 1/2 x 11 paper. A4 is a European paper size standard. Letter is the default setting.

Page Orientation

Page Orientation allows you to choose how the report definition will be displayed on the paper. Portrait will print the report definition vertically. Landscape will print the report definition horizontally. Landscape will also allow more columns to be displayed across the page. Landscape is the default setting.

Page Orientation is disabled if Print Report Definition is chosen.

Print Scope

Print Scope will allow you to choose between printing one entire page of a Filled report or only what is displayed on the monitor. Entire is the default setting.

Entire will only print one page of the report in PeriDefiner, as opposed to the fully generated report in the PeriReporter component. This is simply to give an example of what a generated report may look like.

Print Scope is disabled if Print Report Definition is chosen.

Grid Lines

Grid Lines allows you to choose how to show the cell divisions on the printed report definition. The lines can either be Solid or Dashed. You can also choose to have no visible lines by clicking off both options. No lines is the default setting.

Page Layout

- Full Size
  Clicking the Full Size button will print the report with the number of Rows per Page specified in the Report Settings window.
- Fit To Page
  Clicking the Fit To Page button will fit as many rows vertically and as many columns horizontally on the page as possible, before starting a new page.
- Horizontal Adjustment
  Clicking the Horizontal Adjustment button will force the report to either spread the columns out or condense the column width in order to fit all of the columns onto the width of the page. If the report consists of many columns, choosing this option may make the generated report difficult to read as it will be minimized to fit onto the page width.

Full Size is the default setting.

Page Layout is disabled if Print Report Definition is chosen.

Print and Postscript

Clicking on the Print button will print the report definition according to the parameters you have set in the Print Setup window. Clicking on the Postscript button will save the print definition to a postscript file, but will not print the report. This file will be named `Reportname.prd.ps`.

Print HTML

Clicking on the Print HTML button saves the report to an HTML file.

If you change the report definition, and would still like to save this version, remember to change the name of the report or else this one will overwrite the previous definition.

Command Line Options

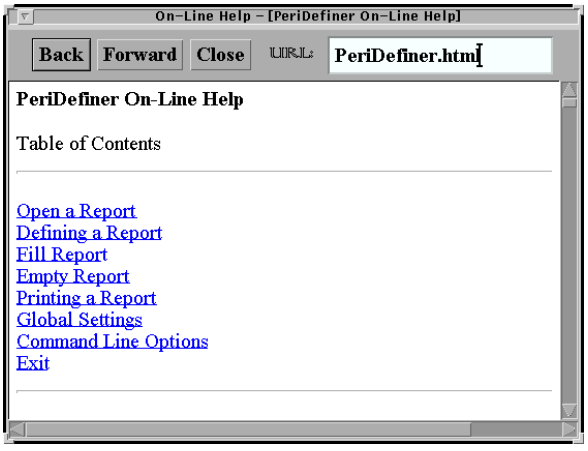
These options can be specified when starting PeriDefiner from the command line.

Option	Parameter	Function
`-h`		Show Help
`-version`		Show version of PeriDefiner running
	`report[.prd]`	Load Report

Help Menu

PeriDefiner has an extensive on-line Help menu. You can choose to use the Table of Contents or the scroll bars to search for a desired topic. You can move back and forth between topics by using the Forward and Back buttons. The name of the current help file is displayed in the URL box. You can switch to the PeriReporter help file by typing in `PeriReporter.html`.

To activate the Help window, click the word *Help* in the menu bar.



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5

PeriReporter

This chapter covers:

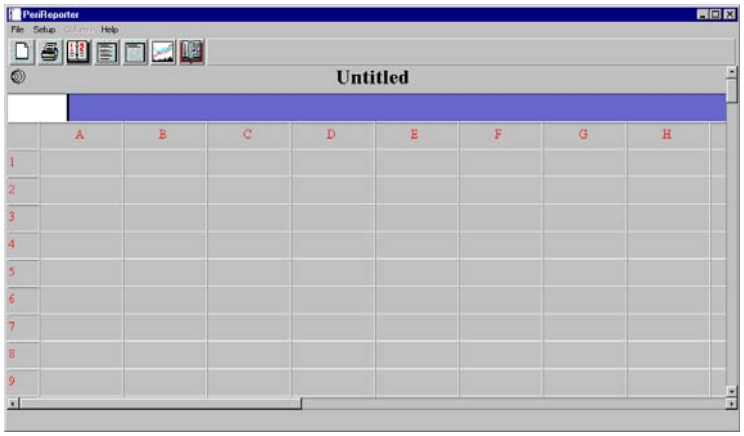
1. **Purpose**
2. **PeriReporter Tool Bar**
3. **Generating a Report**
4. **Web-Based Reports**
5. **Graphs**
6. **Options**

Purpose

The PeriReporter component is a graphical utility which is used to generate reports. The report (created in PeriDefiner) must be specified, along with the date and the consolidation level, after which it can be generated and printed.

Launch PeriReporter

You can launch PeriReporter by typing `PeriReporter` at the command line. This opens a new PeriReporter window.



PeriReporter Tool Bar

PeriReporter contains a tool bar at the top of its graphical display. This consists of buttons which can be clicked to perform specified functions within the program. Many of these functions can also be initiated through the program's pull-down menus.

At certain points in this manual, Avaya Media Processing Server (Avaya MPS) Series is analogous with Voice Processing Series (VPS). This is reflected in specific file names and directories, as well as certain software features.

Open - Opens a report definition created in PeriDefiner. No changes can be made to the report parameters.

Print - Used to print the generated report, complete with statistical data or the report definition.

Report Scope - Used to select a range of dates and times, report type, and Avaya MPS/VPS #s that will be used in the generated report.

Generate - Used to create the specified report for the dates and detail level selected.

Preview - Used to display only a specified number of rows from a generated report.

Graph - Used to activate the Graph Setup window, from which data can be displayed in a series of eight different graph types.

PeriDefiner - Used to initiate running PeriDefiner, in which report definitions can be created or modified.

Generating a Report

Generating a report is a 3 step process.

1. Open a Report Definition
2. Select a Report Scope
3. Generate the Report

Open a Report Definition

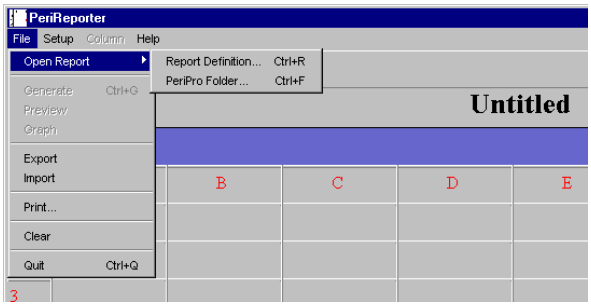
Open a Report Definition using either the File menu or the tool bar. PeriReporter will accept specification of either a report definition or a `.folder` file created by PeriProducer.

For additional information on creating a `.folder` file, see the *PeriProducer User's Guide (9090752(I)).*

Open a Report Definition or PeriPro folder from the menu bar.

Select:

- File
- Open Report
- Report Definition...
  or
- PeriPro Folder...

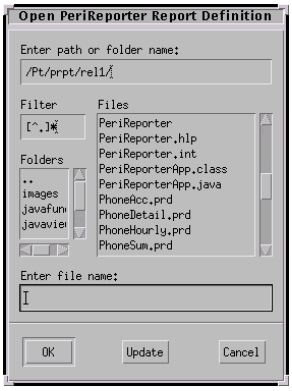


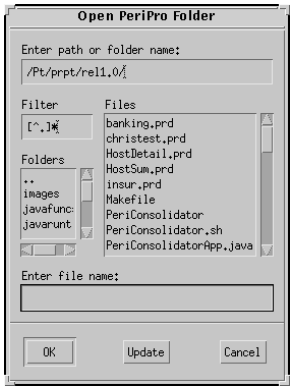
Choose the specified report from the corresponding window

Select:

- Folder
- File
- Click OK

The specified report definition or PeriPro folder opens





Open a Report Definition from the tool bar

Click:

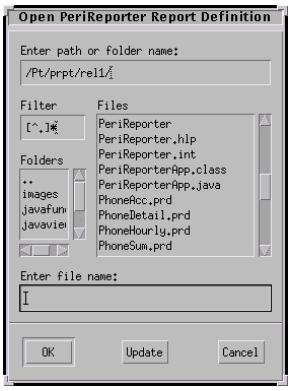
- Open button

Choose the specified Report Definition

Select:

- Folder
- File
- Click OK

The specified report definition opens



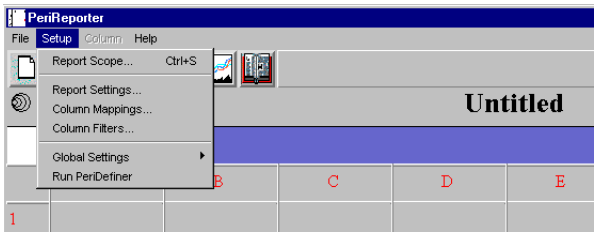
Select a Report Scope

The Report Scope window allows you to select a start and end date, start and end times, consolidation level, and Avaya MPS/VPS number for the specified report. Open the Report Scope window from the Setup menu or the tool bar.

Open the Report Scope window from the menu bar

Select:

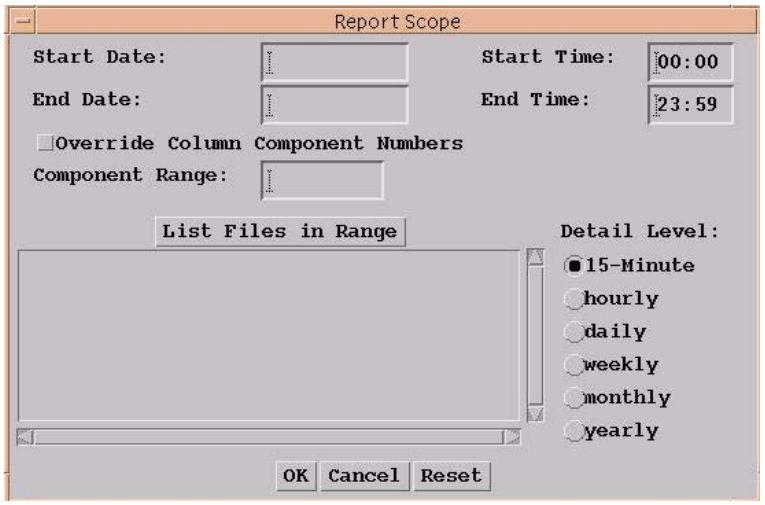
- Setup
- Report Scope...



Open the Report Scope window from the tool bar

Click:

- Report Scope button



Start Date and End Date

In the Start Date field, enter the date you would like the generated report to begin with. In the End Date field, enter the date you would like the generated report to end with. The date must be entered in `MM/DD/CCYY` format.

If the End Date is left blank then the report will only be generated for the day specified in the Start Date field.

Start Time and End Time

In the Start Time field, enter the time you would like the generated report to begin with on the Start Date. In the End Time field, enter the time you would like the generated report to end with on the End Date. The time must be entered in `HH:MM` format as military time.

A report generated in Standard mode will contain all data for all dates specified, beginning with the Start Time and completing with the End Time. A report defined to run in Summary mode will only contain data accumulated between the hours indicated for the specified dates.

Report Mode	Start/End Date/Time	Generated Report Data
Standard	01/05/1997 - 02/10/1997 08:00 - 17:00	All statistical data gathered between 8am, Jan. 5, 1997 and 5pm, Feb. 10, 1997.
Summary	01/05/1997 - 02/10/1997 08:00 - 17:00	Statistical data gathered between the hours of 8am and 5pm will be summed for each like time period, from Jan. 5, 1997 to Feb. 10, 1997.

The default times are: Start - `00:00` / End - `23:59`.
Start and End times are only used for 15 minute and hourly consolidated reports.

In a 15 minute consolidated report, Start Time will round backward to the nearest quarter hour, while End Time will round forward to the nearest quarter hour.
For example, if a Start Time of `02:17` is entered the report will adjust to begin gathering data at `02:15`. If an End Time of `05:23` is entered the report will adjust to finish gathering data at `05:29`.

In an hourly consolidated report, Start Time will round backward to the nearest hour, while End Time will round forward to the nearest hour.
For example, if a Start Time of `02:17` is entered the report will adjust to begin gathering data at `02:00`. If an End Time of `05:23` is entered the report will adjust to finish gathering data at `05:59`.

Certain system reports cannot be scoped by time. These reports are PhoneDetail, PhoneSum, SpanDetail, SpanSum, HostDetail and HostSum. When these reports are generated the time period should be set to include the entire day.

Override Column Avaya MPS/VPS Numbers

Clicking the Override Column Avaya MPS/VPS Numbers button allows you to choose one or more Avaya MPSs/VPSs from which to gather data, regardless of the Avaya MPSs/VPSs to which the individual columns of the specified report definition are mapped. Zero may also be chosen to specify all Avaya MPSs/VPSs.

When choosing this option, you will need to enter the Avaya MPS/VPS numbers in the Avaya MPS/VPS Range box.

Avaya MPS/VPS Range

The Avaya MPS/VPS Range box allows you to choose which Avaya MPSs/VPSs the report will collect data from. In this box you may enter one or more Avaya MPS/VPS numbers in the following fashions.

- 1, 2, 4, 6, ...
- 1-4, 6, 8-10, ...

You may also enter “0” to collect data from all available Avaya MPSs/VPSs.

Detail Level

The Detail Level option allows you to choose the consolidation level for the specified report.

There are six different Detail Levels:

- 15-minute
- hourly
- daily
- weekly
- monthly
- yearly

Reports run for all Detail Levels, except 15-minute, will not be available for generation until the following day, after PeriConsolidator has run. 15-minute reports are available every hour for the previous hour.

List Files in Range

Click the List Files in Range button to see which files meet the criteria for the Start Date and End Date you have selected for this report.

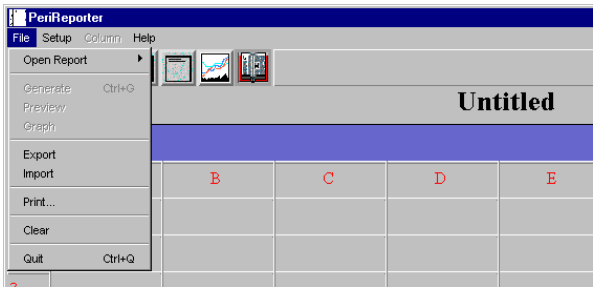
Generate the Report

To Generate the Report with true statistical data, use the file menu or the tool bar.

Generate the Report from the menu bar

Select:

- File
- Generate



Generate the Report from the tool bar

Click:

- Generate

Web-Based Reports

You can use the PeriReporter tool to generate web-based reports.

If your workstation runs the Apache server (PERIdist), you can launch a web browser window and type either “localhost” or the host name of the machine into the URL and get to the main web page. This page that has links to PeriView, PeriReporter, and Avaya MPS-related documentation. Click on “PeriReporter” to access the web reports utility.

Within Perireporter, use the pull-down menus to select the following parameters:

Report

Select the kind of report that you need to generate from the pull-down menu. There are seven kinds of reports:

- Host Detail
- Host Summary
- Phone Accumulated
- Phone Detail
- Phone Summary
- Span Detail
- Span Summary

Start Date and End Date

Use the **Start Date** field to specify the date when you want the report to begin. Enter a date on which you want the report to end, using the **End Date** field. The standard date format is mm/dd/ccyy.

If the End Date is left blank, then the report is only be generated for the day specified in the Start Date field.

Start Time and End Time

In the Start Time field, enter the time you would like the generated report to begin with on the Start Date. In the End Time field, enter the time you would like the generated report to end with on the End Date. The time must be entered in `HH:MM` format as military time.

The default times are: Start - `00:00` / End - `23:59`.
Start and End times are only used for 15 minute and hourly consolidated reports.

In a 15 minute consolidated report, Start Time will round backward to the nearest quarter hour, while End Time will round forward to the nearest quarter hour.
For example, if a Start Time of `02:17` is entered the report will adjust to begin gathering data at `02:15`. If an End Time of `05:23` is entered the report will adjust to finish gathering data at `05:29`.

In an hourly consolidated report, Start Time will round backward to the nearest hour, while End Time will round forward to the nearest hour.
For example, if a Start Time of `02:17` is entered the report will adjust to begin gathering data at `02:00`. If an End Time of `05:23` is entered the report will adjust to finish gathering data at `05:59`.

Detail Level

This option allows you to choose the consolidation level for the specified report.

There are six different detail levels:

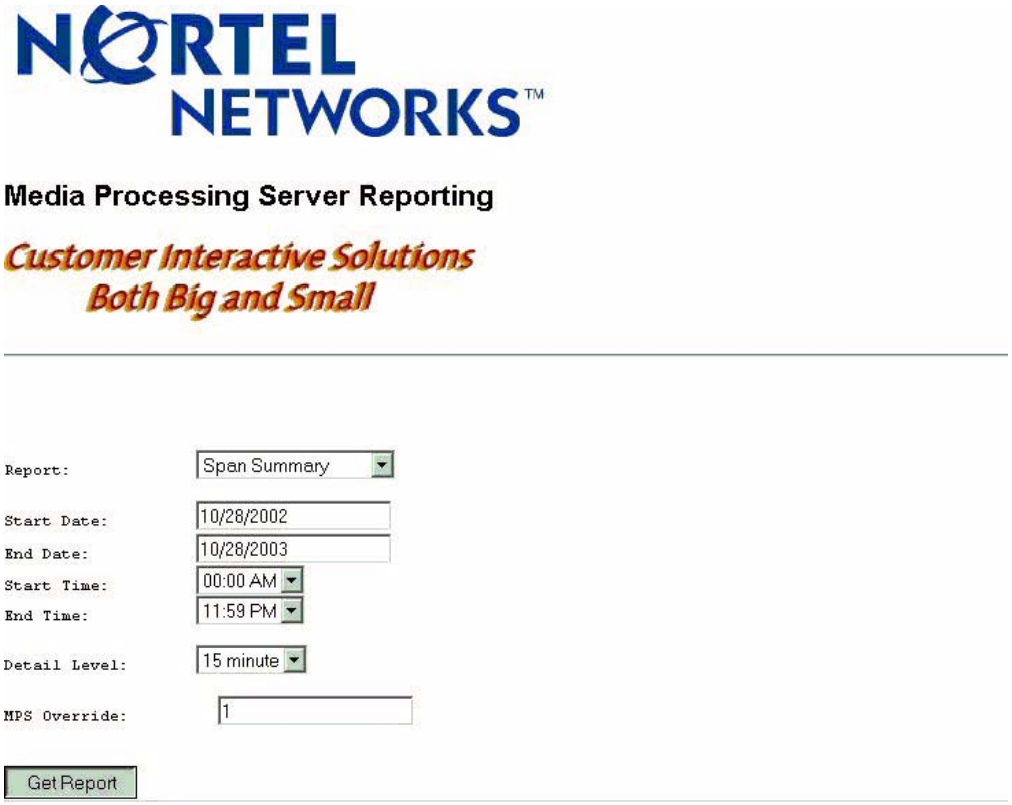
- 15-minute
- hourly
- daily
- weekly
- monthly
- yearly

Reports for all detail levels, except the 15-minute, cannot be generated till the following day, after PeriConsolidator has run. 15-minute reports are available every hour for the previous hour.

Avaya MPS Override

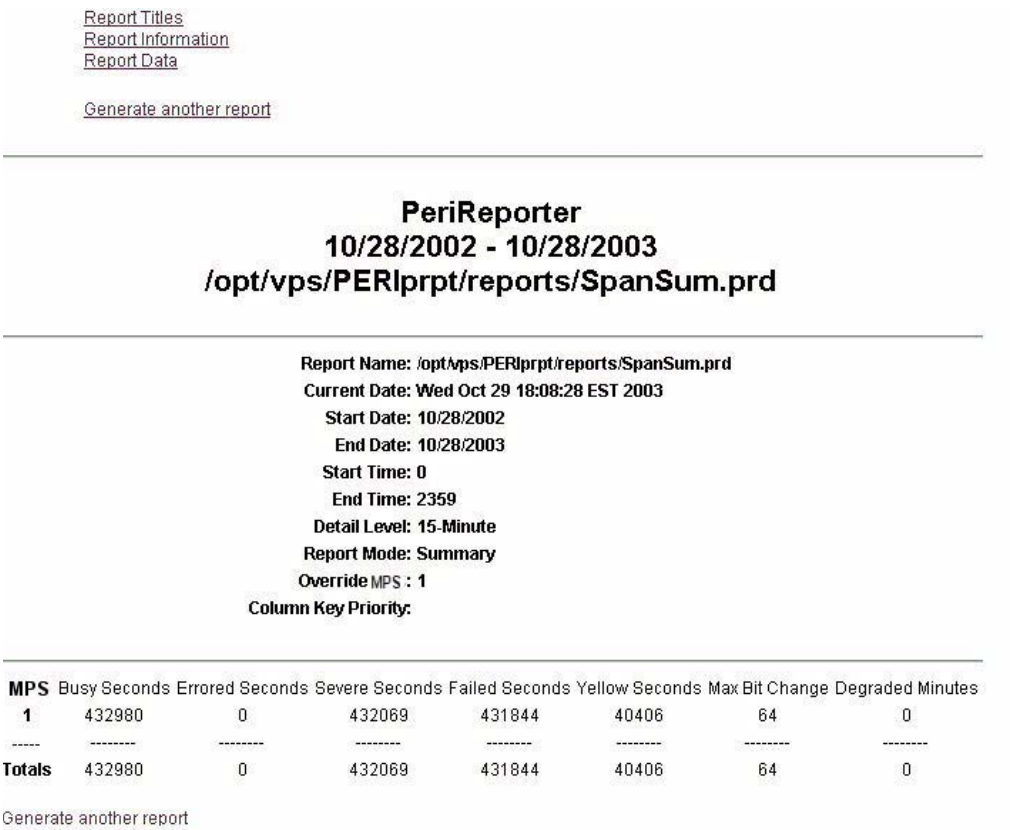
Enter a numerical value in the **Avaya MPS Override** field to indicate a specific Avaya

Avaya MPS (or a set of Avaya MPSs) for each column. If you use this field, it will override all the settings in the report definition.



The resulting page shows a consolidated report for the selected parameters.

Click on the links in the top portion of the browser window to view specific sections of the report. Click on the **Generate Another Report** link to go back and create a different report.



Report Titles
Report Information
Report Data

Generate another report

PeriReporter
10/28/2002 - 10/28/2003
/opt/vps/PERIprpt/reports/SpanSum.prd

Report Name: /opt/vps/PERIprpt/reports/SpanSum.prd
Current Date: Wed Oct 29 18:08:28 EST 2003
Start Date: 10/28/2002
End Date: 10/28/2003
Start Time: 0
End Time: 2359
Detail Level: 15-Minute
Report Mode: Summary
Override MPS : 1
Column Key Priority:

MPS	Busy Seconds	Errored Seconds	Severe Seconds	Failed Seconds	Yellow Seconds	Max Bit Change	Degraded Minutes
1	432980	0	432069	431844	40406	64	0
Totals	432980	0	432069	431844	40406	64	0

Generate another report

Web-based reporting follows the same rules followed when generating a standard report. For additional information, see ***Generating a Report*** on page 76.

You can also insert user created application reports. The below steps need to be followed:

- Use the PeriDefiner tool to create a `.prd` file.
- Update the `reportlist.pl` file located in the `$VPSHOME/PERIdist/dist-bin` directory. Insert your visible name and report location inside the parentheses. This is what the file looks like:

```
%reportlist'report_list =
(
"Phone Detail" =>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneDetail.prd",
"Phone Summary" =>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneSum.prd",
"Phone Accumulated"=>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneAcc.prd",
"Host Detail" =>
"$ENV{VPSHOME}/PERIprpt/reports/HostDetail.prd",
"Host Summary" => "$ENV{VPSHOME}/PERIprpt/reports/HostSum.prd",
"Span Detail" =>
```

```
"$ENV{VPSHOME}/PERIprpt/reports/SpanDetail.prd",
"Span Summary" => "$ENV{VPSHOME}/PERIprpt/reports/SpanSum.prd",
);
```

For example, if a report called `MyFirstReport.prd` is to be added to the reports directory, the result would look like this:

```
%reportlist'report_list =
(
"Phone Detail" =>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneDetail.prd",
"Phone Summary" =>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneSum.prd",
"Phone Accumulated"=>
"$ENV{VPSHOME}/PERIprpt/reports/MPSPhoneAcc.prd",
"Host Detail" =>
"$ENV{VPSHOME}/PERIprpt/reports/HostDetail.prd",
"Host Summary" => "$ENV{VPSHOME}/PERIprpt/reports/HostSum.prd",
"Span Detail" =>
"$ENV{VPSHOME}/PERIprpt/reports/SpanDetail.prd",
"Span Summary" => "$ENV{VPSHOME}/PERIprpt/reports/SpanSum.prd",
"My First Report" =>
"$ENV{VPSHOME}/PERIprpt/reports/MyFirstReport.prd",
);
```

The utility is available only for the Avaya MPS and requires PERIdist, PERIprpt and **PatchBundle 8** to be installed.

Graphs

Once a report has been generated, a graph may be made of the collected data. This is useful for comparing data from separate columns. The columns may represent counters, formulas or functions.

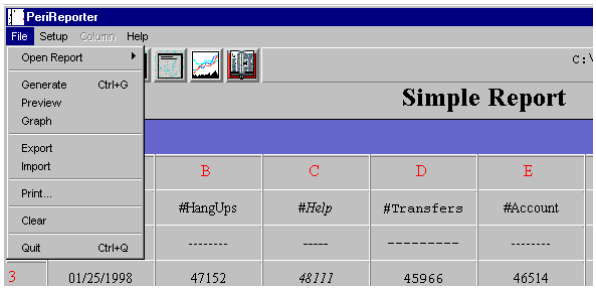
Graphing will only be enabled after a report has been generated.

To create a Graph, use the file menu or the tool bar.

Open the Graph Setup box from the menu bar

Select:

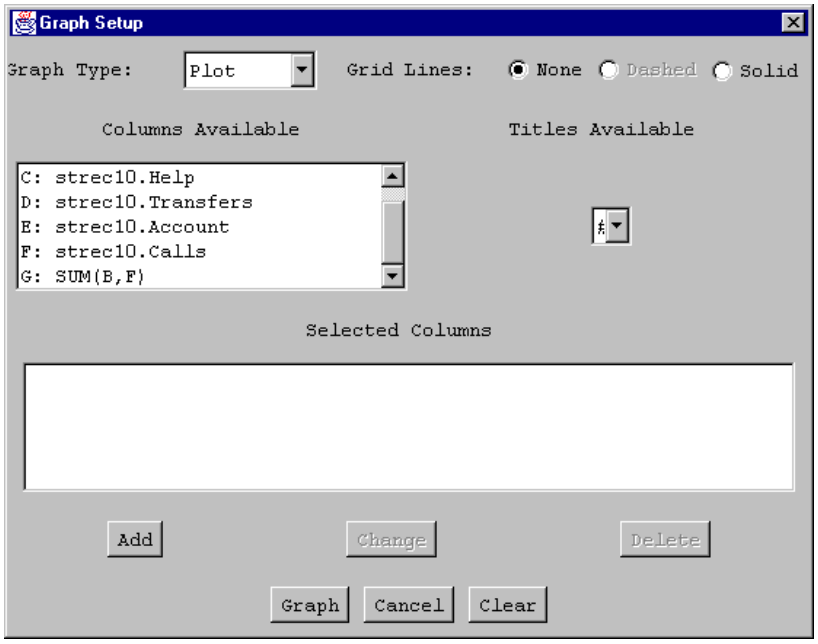
- File
- Graph



Open the Graph Setup box from the tool bar

Click:

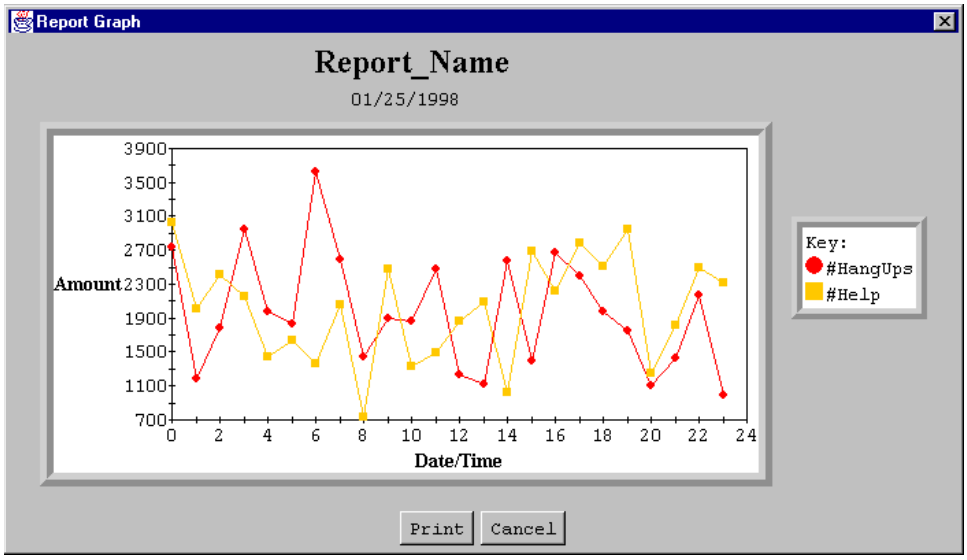
- Graph



Graph Type

Choose the type of graph you would like to have your data displayed in through use of the pull-down menu. There are a total of eight different graph types.

Plot Graph

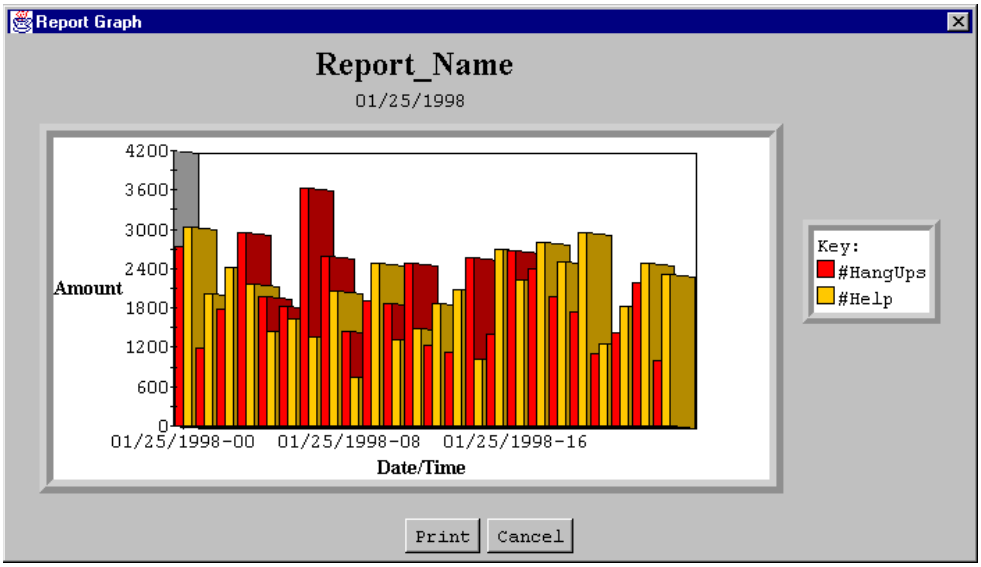


Plot graphs display the data in a series of high and low points connected by lines.

Plot graphs can display any number of columns. Each column will display in a different color.

Placing the cursor over any point on the graph will display the date and count for that point.

Bar Graph

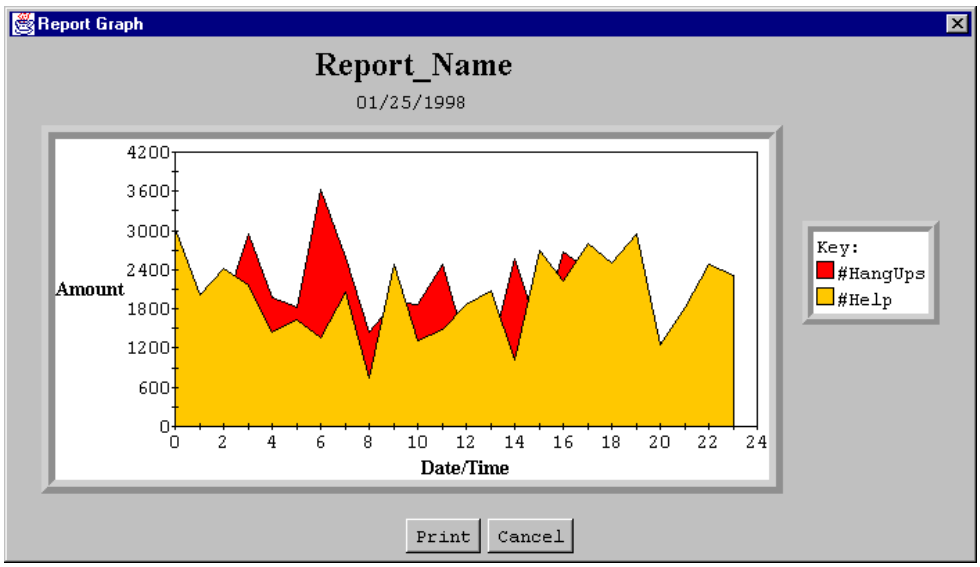


Bar graphs display the data in a series of high and low points represented by solid vertical bars.

Bar graphs can display any number of columns. Each column will display in a different color.

Placing the cursor over any point on a particular bar will display the date and count for that bar.

Area Graph

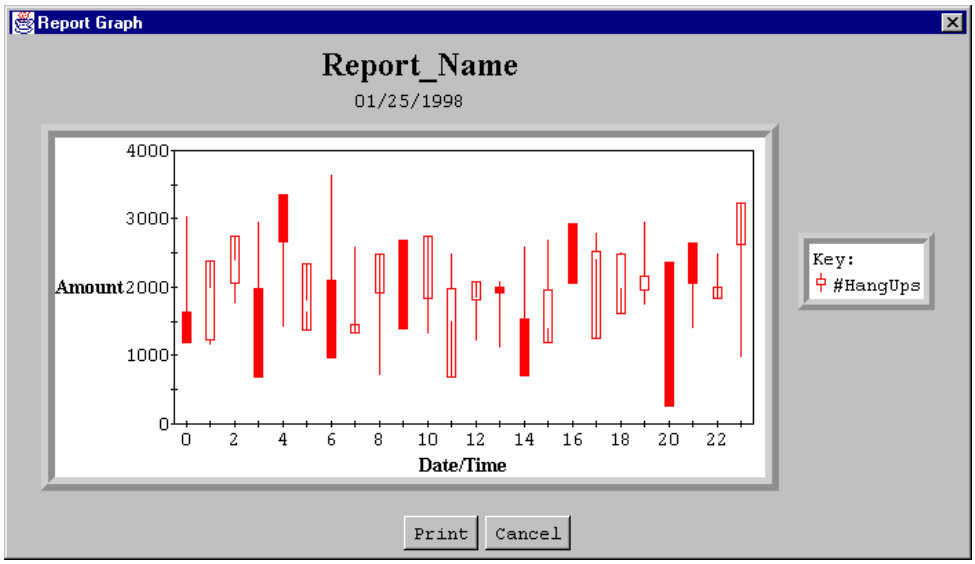


Area graphs display the data in very much the same manner as Plot Graphs. A series of high and low points are shown as filled areas, with each counter overlaying another. The order in which counters are chosen determines which data will lay over others. The first chosen counter will appear in the background, while the last chosen will remain up front.

Area graphs can display any number of columns. Each column will display in a different color.

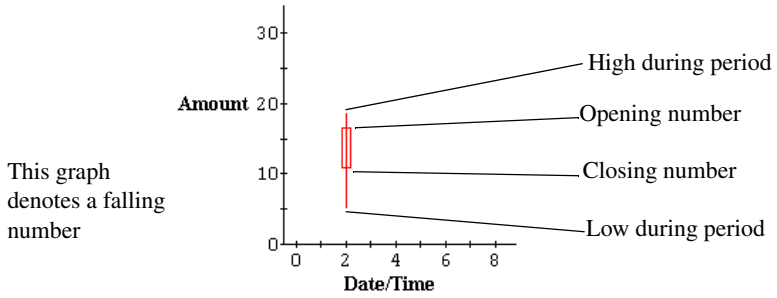
Placing the cursor over any point in a particular area will display the date and count for that point.

Candle Graph



Candle graphs display the data in a series of opening, closing, high and low points represented by vertical bars and lines. The bar depicts an opening and closing number for a time period. A solid bar denotes a rising number, while an empty bar denotes a falling number. The line depicts a high and low for that period.

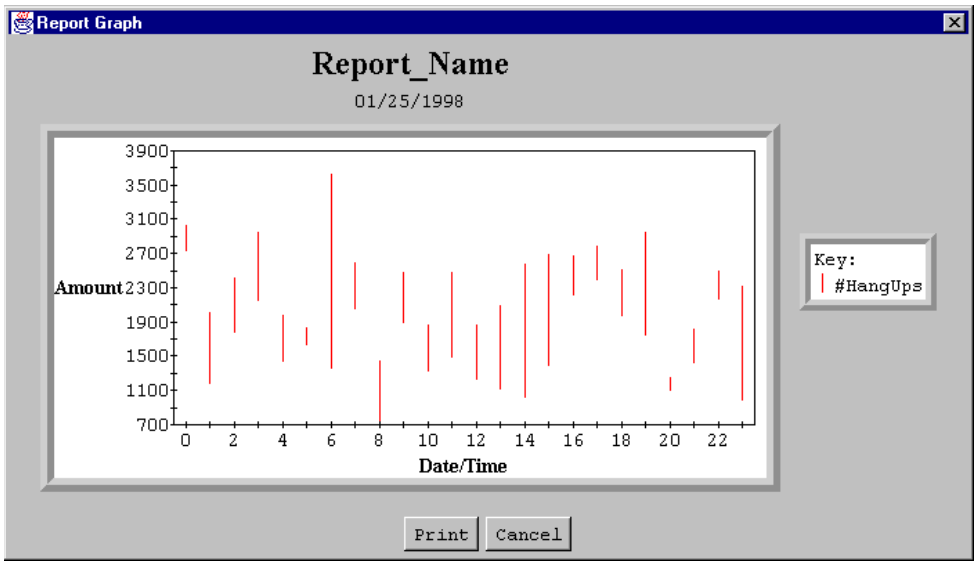
Candle graphs are helpful when tracking financial information, such as stock prices, for a specific time period. The following example shows how a Candle graph would represent this.



Candle graphs must be set to display a series of four separate columns. Any number of columns above four, must be divisible by four. (8, 12, 16...)

Placing the cursor over any point on a particular line will display the date and count for that point.

Hilo Graph

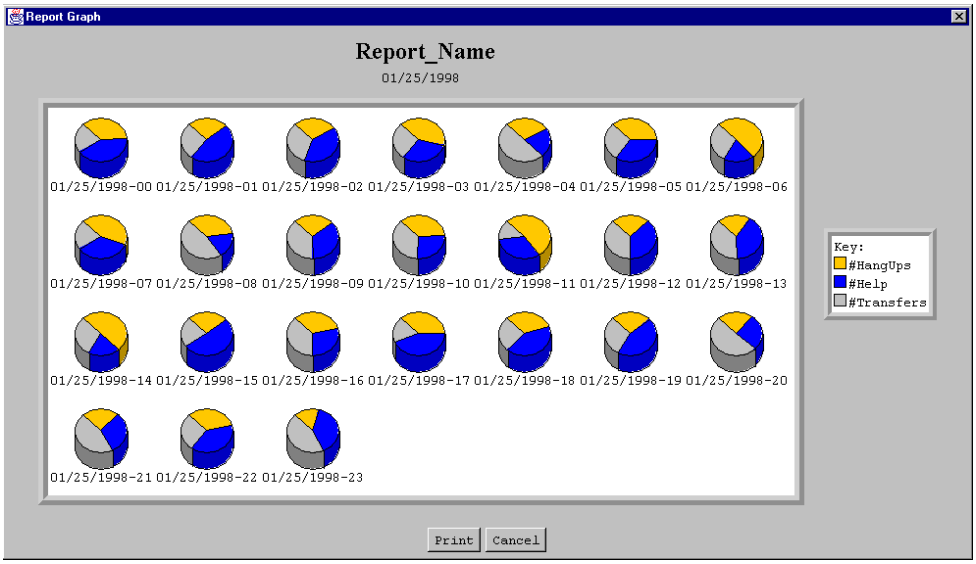


Hilo graphs display the data in a similar way to Candle graphs, with a series of vertical lines. The high and low points of the data are represented by the top and bottom points of the lines.

Hilo graphs must be set to display a series of two separate columns. Any number of columns above two, must be divisible by two. (4, 6, 8...)

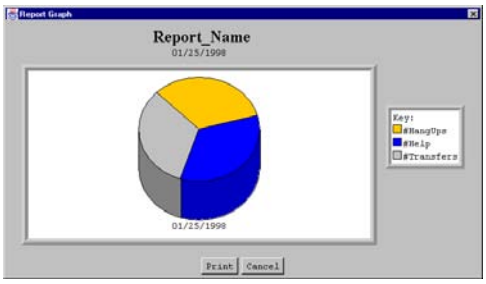
Placing the cursor over any point on a particular line will display the date and count for that point.

Pie Graph



Pie graphs display the data as individual sections of a circle, or slices of a pie. 15 Minute, Hourly, Weekly, Monthly, and Yearly reports will have data displayed in a series of graphs, each representing a different time period. Daily reports will have data displayed as a single graph, representing the entire time period.

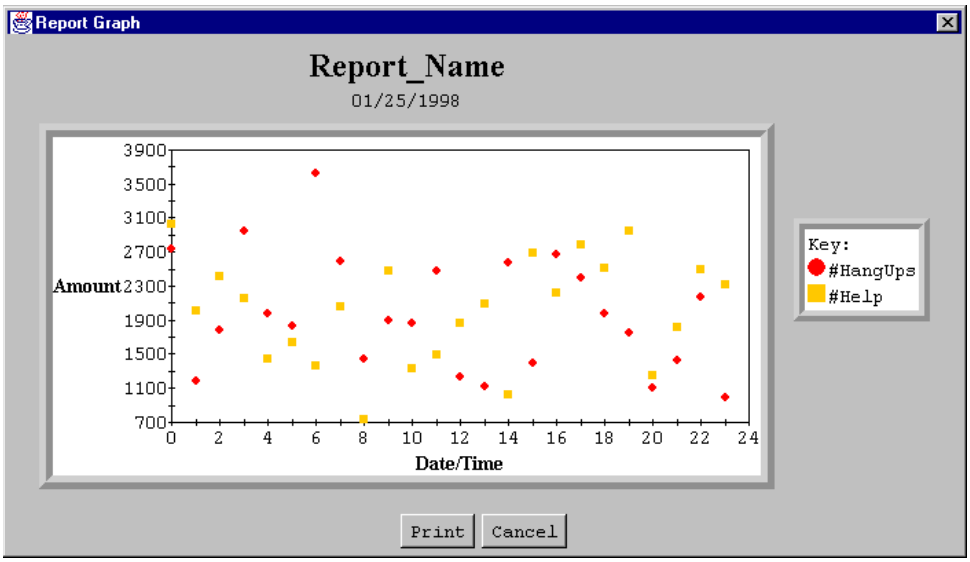
An example of a Pie graph based on a Daily report is shown below.



Pie graphs must display a minimum of two columns. Each column will display in a different color.

Placing the cursor over any section on a particular pie will display the date and count for that section.

Scatter Graph

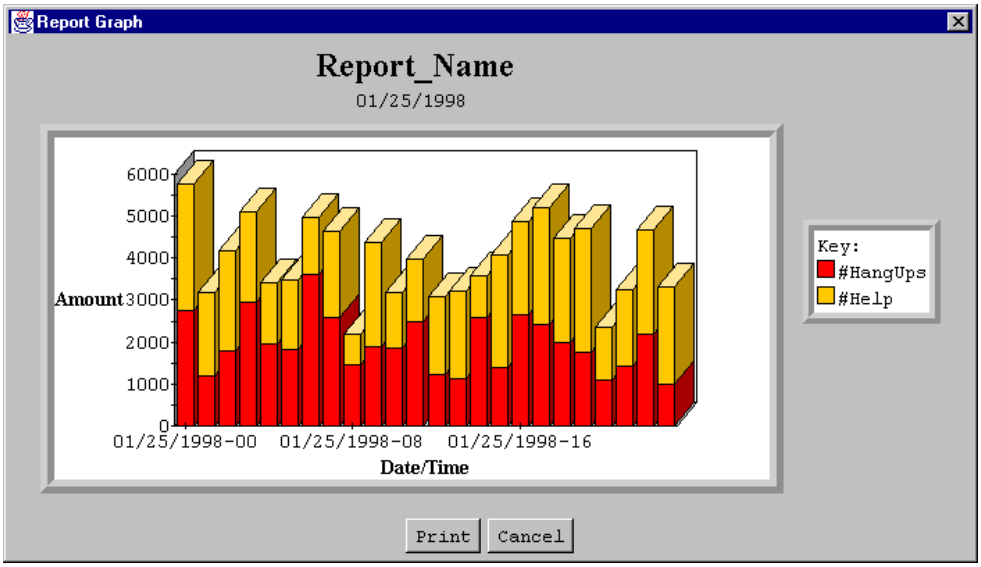


Scatter graphs display the data in a similar way to Plot graphs, with the exception that there are no lines connecting the individual points.

Scatter graphs can display any number of columns. Each column will display in a different color.

Placing the cursor over any point in the graph will display the date and count for that point.

Stacking Graph



Stacking graphs display the data in a similar way to Bar Graphs, with the exception that the vertical bars are placed on top of one another.

Stacking graphs can display any number of columns. Each column will display in a different color.

Placing the cursor over any point on a particular bar will display the date and count for that bar.

Grid Lines

Grid Lines allows you to choose how to show the grid lines on the specified graph. You can also choose to have either solid grid lines or no grid lines displayed.

Columns Available

The Columns Available field shows which columns are able to be chosen for the specified graph. These will generally be the columns for which data has been collected or formula columns for the generated report.

Add

To add a column to be graphed, click on the column letter within the box and then click ADD.

Titles Available

Titles available indicates the titles of a highlighted column. These are the titles which can be used to identify the column within the graph. The titles listed in the Titles Available menu will be names given to the columns in the Report Settings window, located in PeriDefiner.

If only one Line For Report Title was specified in the Report Settings window then there will only be one title listed.

If more than one Line For Report Title was specified in the Report Settings window, then a choice of titles, one from each Title Line plus one combining all titles, will be available.

Selected Columns

Columns selected to be included in the graph will be displayed in this box.

Change

To change the title of a selected column, choose the specified column to highlight it, choose the desired title in the Titles Available pull down menu and then click CHANGE.

Delete

You may choose to remove a column that has been selected by clicking on the specified column to highlight it, and then clicking DELETE.

Graph

Click the GRAPH button when you are ready to view the graph.

Options

Global Settings

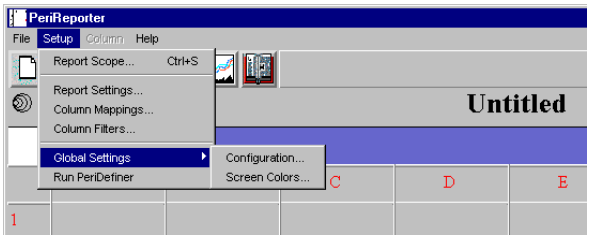
The Global Settings window allows you to set the maximum number of rows, columns and preview intervals for all reports. Select Global Settings using the Setup menu.

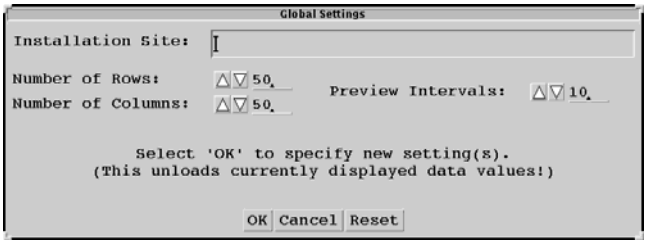
Any changes made in Global Settings will be saved in the `.perireporter` file.

Open the Global Settings window from the menu bar

Select:

- Setup
- Global Settings
- Configuration...





Installation Site

Enter the name of the site from which these reports are to be generated. This will identify different reports from different locations. This is useful in keeping track of reports if there are several sites from which data is collected. You may enter any desired text to help in identifying each individual report. The Installation Site will appear on the first page of each printed report.

The inclusion of an Installation Site is optional.

Number of Rows

Enter the maximum number of rows that the report will consist of by clicking on the up and down arrows or typing in a number.

Be sure to allow enough rows for the report to complete running. If the report runs out of room PeriReporter will attempt to make the proper adjustments to accommodate the report. If this can not occur, a warning message will appear indicating how many rows are needed to finish generating the entire report.

Number of Columns

Enter the maximum number of columns of statistical data that the report will consist of by clicking the up and down arrows or typing in a number.

Preview Intervals

Enter the number of rows of statistical data that will be shown when Preview is chosen from the PeriReporter tool bar by clicking the up and down arrows or typing in a number. Each row represents one time interval of the generated report.

After changes are made in the Global Settings window a pop-up screen will appear asking if you would like to save the changes you have made to this report definition if you have not previously performed a save.

Any Global Setting changes made here will affect all reports.

Screen Colors

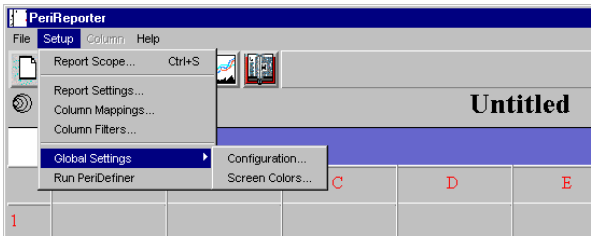
The Screen Colors window allows you to change the color of specific areas of all reports. Access the Screen Colors window using the Setup menu.

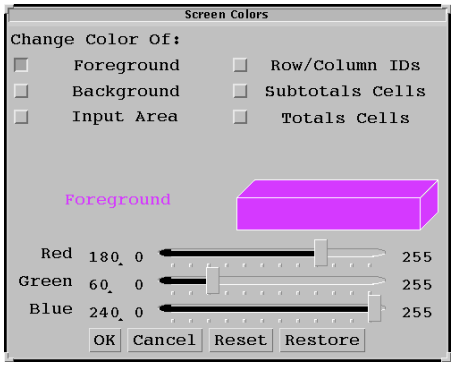
Any changes made in the Screen Colors window will be saved in the `.perireporter` file.

Open the Screen Colors window from the menu bar

Select:

- Setup
- Global Settings
- Screen Colors...





Change Color

Click on the button next to the area of which you would like to change the color. The current color setting will appear in the sample cube in the middle of the window. Change the color by adjusting the Red, Green, and Blue slide bars at the bottom of the window. To the right of each bar is the maximum setting. To the left of each bar is the setting the bar is currently at. Pressing the Reset button will set all colors back to where they were when the window was opened. After adjusting colors, click OK.

When report colors are modified, these changes will only take place on-screen. Printed reports will remain in black and white.

Be sure not to set the Foreground and Background colors to the same settings. If this happens the report will appear all one color and no data will be visible. Return to the Screen Colors window and click the Restore button. Then re-adjust colors.

Any Screen Color changes made here will affect all reports.

Preview a Report

Choose Preview when only a specified number of time intervals of the report are to be viewed. Configure the number of Preview intervals in the Global Settings window.

Select Preview from the File menu or the Preview button on the tool bar.

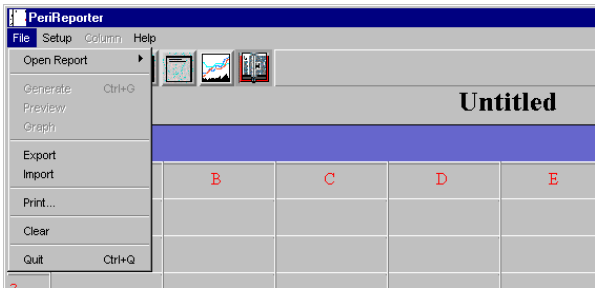
Export/Import

Using Export will reformat the report and create a tab separated ASCII file which can be read by a spreadsheet program. Import can be used to reload a previously exported report into PeriReporter. Access the Export and Import functions from the File menu.

Open the Export and Import windows from the menu bar

Select:

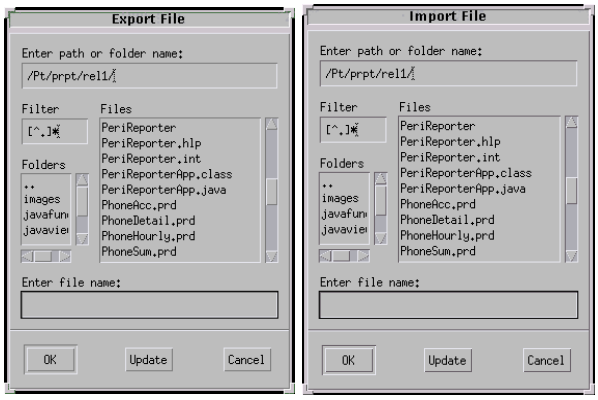
- File
- Export
  or
- Import



Choose the file where the tab separated ASCII file is to be written to or retrieved from in the corresponding window

Select:

- Folder
- File
- Enter File Name
- Click OK



You can change the export separator by manually editing the `.perireporter` file. To do this, add an entry using the name ‘exportSeparator.’ Set this value as the separator you would like to use in your export.

Print a Generated Report

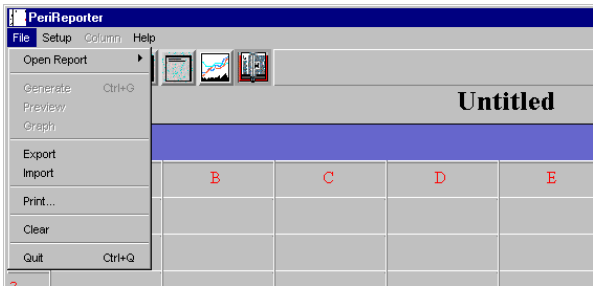
You can chose to print the entire generated report, only the portion displayed on the screen, or only the report definition of the specified report. Select Print from the File menu or the tool bar.

Any changes made in the Print Setup window will be saved in the `.perireporter` file.

Open the Print Setup window from the menu bar

Select:

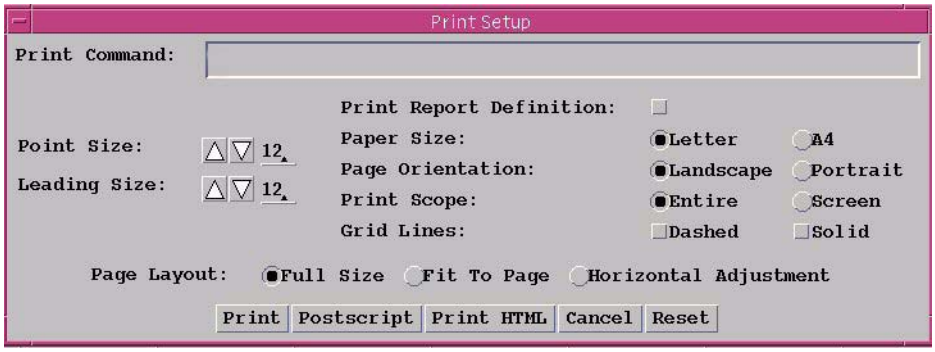
- File
- Print...



Open the Print Setup window from the tool bar

Click:

- Print button



Print Command

Enter the printer destination of the document to be printed. This is the same command that would be entered elsewhere on your system to allocate a specific printer.

Point Size

Point Size controls the size of the data to be displayed in the printed report. Change the Point Size by clicking on the up and down arrows or typing in a number.

Point Size is disabled if Print Report Definition is chosen.

Leading Size

Leading Size controls the vertical size of the cells in the printed report. Change the Leading Size by clicking on the up and down arrows or typing in a number.

Leading Size is disabled if Print Report Definition is chosen.

Be careful not to make the Point Size larger than the Leading Size. If this happens, the data will overflow the cells, making the printed report difficult to read.

Print Report Definition

Choosing this option will print a table labeling the column mappings, formulas, and styles. An example of this table is below.

Col.	Heading	Mps#	Date	Folder	Variable	Formula	Key
A	Date	0	T				0
B	# of Calls	0	F	Test	Calls		0
C	Total	0	F		Total	SUM(B,G)	0

Order	Range	Show	Dec.	Align	Height	Width	FontStyle
A		true	0	C	33	131	TimesRoman
B	#>20	true	0	C	33	103	TimesRoman Italic
C		true	0	C	33	103	TimesRoman Bold

Choosing Print Report Definition will also create a table labeling the Subtotal and Total rows, along with any Special Cells that may be mapped. An example of this table is below.

Column:	Subtotals Rows:	Totals Rows:	Special Cells:
A	Subtotal	Total	
B	SUM(B)	TOT(B)	
C	SUM(C)	TOT(C)	B4+C6

The default setting in PeriReporter is for the Print Report Definition button to be off.

Paper Size

Paper Size allows you to specify the paper the generated report will be printed on. Letter is standard 8 1/2 x 11 paper. A4 is a European standard of paper size. Letter is the default setting.

Page Orientation

Page Orientation allows you to choose how the generated report will be displayed on the paper. Portrait will print the report vertically. Landscape will print the report horizontally. Landscape will also allow more columns to be displayed across the page. Landscape is the default setting.

Page Orientation is disabled if Print Report Definition is chosen.

Print Scope

Print Scope will allow you to choose between printing the entire generated report or only the portion which is displayed on the computer monitor. Entire is the default setting. Print Scope is disabled if Print Report Definition is chosen.

Grid Lines

Grid Lines allows you to choose how to show the cell divisions on the printed report. The lines can either be Solid or Dashed. You can also choose to have no visible lines by clicking off both options. No lines is the default setting.

Page Layout

- Full Size
  Clicking the Full Size button will print the report as the number of Rows per Page specified in the Report Settings window.
- Fit To Page
  Clicking the Fit To Page button will fit as many rows vertically and as many columns horizontally on the page as possible, before starting a new page.
- Horizontal Adjustment
  Clicking the Horizontal Adjustment button will force the generated report to either spread the columns out or condense the column width in order to fit all of the columns onto the width of the page. If the report consists of many columns, choosing this option may make the generated report difficult to read as it will be minimized to fit onto the page width.

Full Size is the default setting.

Page Layout is disabled if Print Report Definition is chosen.

Print and Postscript

Clicking on the Print button will print the generated report according to the parameters you have set in the Print Setup window. Clicking on the Postscript button will save the generated report to a postscript file, without printing it.

Print HTML

Clicking on the Print HTML button saves the report to an HTML file.

If you change the report definition, and would still like to save this version, remember to change the name of the report or else this one will overwrite the previous definition.

Options

The following options are currently available in PeriReporter. You can manually edit the `.perireporter` file to contain these entries. These values can be set to true or false (the default option):

- `omitheadings` -> If true, omits headings when generating a postscript file.
- `omithtmltitle` -> If set to true, omits title information from an html report.
- `omithtmlinfo` -> If set to true, omits report information from an html report.

A sample `.perireporter` file, generated with the default setting (false), is shown below:

```
#Environment settings for PeriReporter
#Thu Apr 10 09:15:19 EDT 2003
printcommand=lp
fitpage=false
colorSub=-16776961
sitename=
colorTot=-16711936
colorFG=-16777216
colorInput=-10197791
preview=10
pagesize=Letter
point=12
global=true
portrait=false
colorMenubar=-1973791
lead=12
colorBG=-4144960
horzcomp=false
numrows=115
numcols=30
actsize=true
omitheadings=false
omithtmltitle=false
omithtmlinfo=false
```

If you change the report definition, and would still like to save this version, remember to change the name of the report. If not, this one will overwrite the previous definition.

Other Functions

Some functions which are used in PeriDefiner are not configurable in the PeriReporter component.

- The Data Mapping, Display Filters, and Column Appearance windows, all of which are accessed through the Column menu, can be viewed only. No changes can be made here.

- The Report Settings, Column Mappings, and Column Filters windows, all of which are accessed through the Setup menu, can be viewed only. No changes can be made here.

Command Line Options

These options can be specified when starting PeriReporter from the command line.

Option	Parameter	Function

`-b`	`report[.prd]`
	`-sdate MM/DD/CCYY`
	`-edate MM/DD/CCYY`
	
	(optionally `-stime` and `-etime` can be chosen)
		Batch mode (print report without viewing)
		
		Multiple reports can be generated by typing additional report names at the command line.

`-ps`		Create postscript file (runs in batch mode)
`-sdate`	`MM/DD/CCYY`	Set Start date
`-edate`	`MM/DD/CCYY`	Set End date
`-stime`	`HH:MM`	Set Start Time (military format)
`-etime`	`HH:MM`	Set End Time (military format)
`-t`	`h`(hourly), `d`(daily), `w`(weekly), `m`(monthly), `y`(yearly)	Set Report Type (default - 15 minute)
`-h`		Show Help
`-v`	#	Override Avaya MPS/VPS number
`-version`		Show version of PeriReporter running
	`report[.prd]`	Load Report
`-ex`		Create Export File (batch mode)
`-html`		Create HTML File (batch mode)
`-o`		Output Destination File (batch mode)

Help Menu

PeriReporter has an extensive on-line Help menu. You can choose to use the Table of Contents or the scroll bar to search for a desired topic. You can move back and forth between topics by using the Forward and Back buttons. The name of the current help file is displayed in the URL box. You can switch to the PeriDefiner help file by typing in `PeriDefiner.html`.

To activate the Help window, click the word *Help* in the menu bar.

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6

Step-by-Step Sample Report

This chapter covers:

1. **Step-by-Step Sample Report**

Step-by-Step Sample Report

What follows are instructions for constructing a sample report, including defining parameters, mapping columns, updating cells, generating, and printing the report.

After certain steps of constructing a report you may want to save your progress. The first time you choose to save you will have to enter a name for your report file. Each subsequent Save will save the report to that file. To save the work you have done thus far, simply click on the Save button on the tool bar. The first time we save this sample report we will name it `sample.prd`.

Throughout this sample, the Save icon will be inserted at specific points to remind you to use the Save function.

1. Configure PeriConsolidator

   After the PeriReporter Tools package is installed, PeriConsolidator is automatically run in `crontab`. The default parameters are installed in the `.conspr` file. If you would like to customize these parameters, copy the file to your home directory, then edit that `.conspr` file, changing the number of days to save each file type accordingly. For this sample report we will not be changing the default parameters.

   For additional information on the installation of the PeriReporter Tools package, refer to the *Installing Graphical Tools on a Customer Supplied Workstation (9090504(I))* manual.

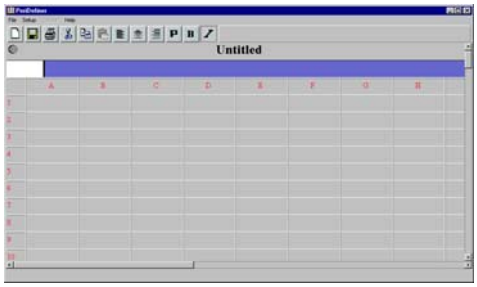
2. Begin Defining A Report

   - **Open PeriDefiner**

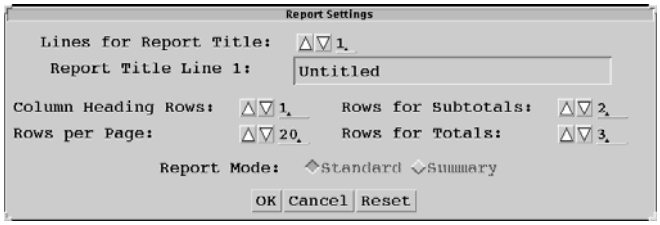
     - From the PeriReporter Tools window, choose PeriReporter.

     - When PeriReporter launches, click on the PeriDefiner icon on the tool bar.

     This will open a blank report definition.

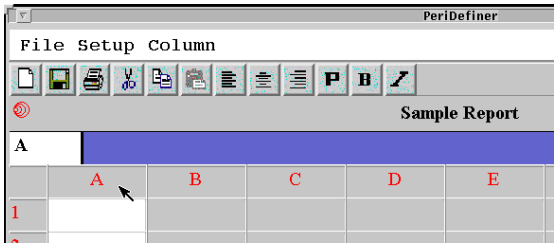


- **Update the Report Settings**
  Open the Report Settings window using the Setup menu.



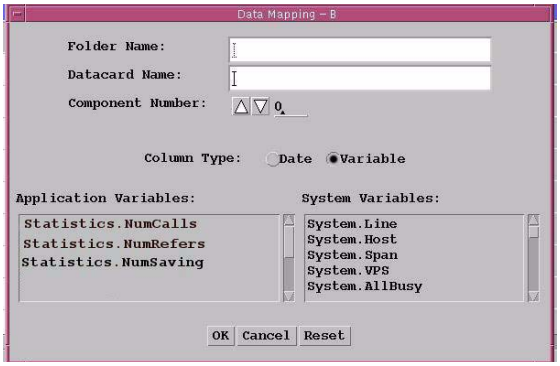
  - At the Report Title line, enter the name of the report. For this sample we will use *Sample Report*.
  - At the Rows per Page line, enter the amount of rows to be displayed before each Subtotal line. For this sample, so that we may see everything necessary on screen, we will use *8*.
  - At the Rows for Subtotals line, enter the amount of rows used to display subtotals at the bottom of each page. For this sample we will use *1*.
  - At the Rows for Totals line, enter the amount of rows used to display totals at the end of the report. For this sample we will use *1*.
  - Lines for Report Title, Column Heading Rows, and Report Mode can also be set. For this sample we will use the default settings.

- **Define Column Formulas and Mappings**
  Open the Data Mappings window from the Column Menu. For each column, highlight the column by clicking on the column letter, so that the Column menu is enabled.



  From the Column menu select Mapping. Choose one column to represent the date and time intervals for this report. This will typically be the first column. For this sample, we have used the following.
  - **Column A:** In the Column Type area, click Date. This will map this column to display the date and time interval in each row of the report. When Date is selected, all other sections of this window will be

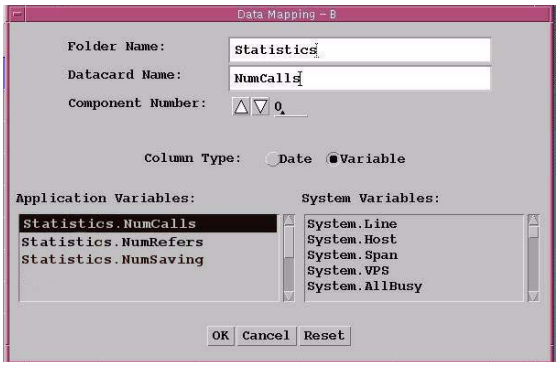
disabled.


Data Mapping - B
Folder Name:
Datacard Name:
Component Number:
0
Column Type:
Date
Variable
Application Variables:
System Variables:
Statistics.NumCalls
Statistics.NumRefers
Statistics.NumSaving
System.Line
System.Host
System.Span
System.VPS
System.AllBusy
OK
Cancel
Reset

Select a Folder and Datacard Name for each of the remaining columns that are to collect statistical data. Leave Column Type set to Variable so that all other functions in the window are enabled.
For this sample we will select, from the Application Variables sub-window:

- **Column B:** `Statistics.NumCalls`
- **Column C:** `Statistics.NumSaving`
- **Column D:** `Statistics.NumChecking`
- **Column E:** `Statistics.NumRefers`

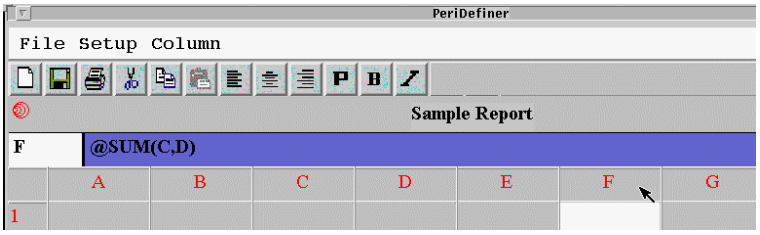
These will then appear in the Folder Name and Datacard Name sections.



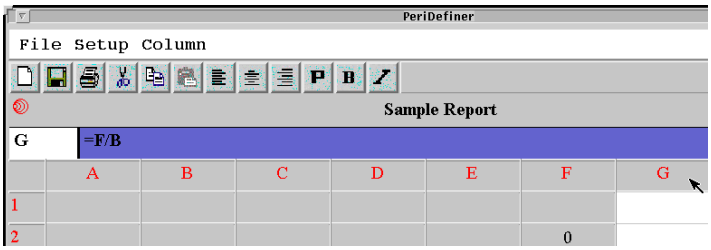
Select an Avaya MPS/VPS Number for each of the above columns. Leaving the number set to *0* will have the column collect data from all available Avaya MPSs/VPSs. For this sample we will leave the Avaya MPS/VPS number set to zero for all

columns.

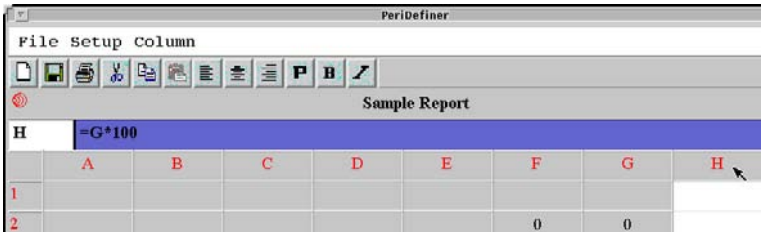
- **Update Individual Columns and Cells**
  Update each individual column by highlighting it, then designating a label, function, value or formula. For this sample we will update the following columns as indicated.
  - **Column F:** Highlight the column and enter the function *@SUM(C,D)*. This will collect the total, in each row, of columns **C** and **D**. This will give us the total number of calls made that were in reference to savings and checking accounts. Now each individual cell in column **F** is mapped to collect the SUM of columns **C** and **D** from its corresponding row.



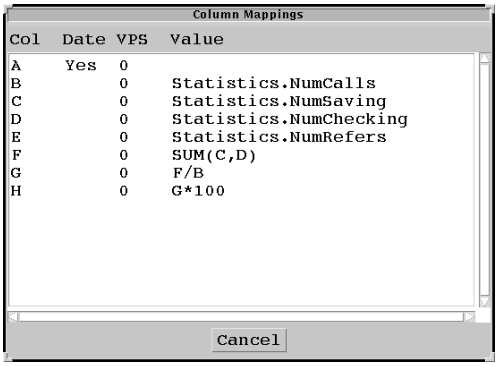
- **Column G:** Highlight the column and enter the formula *=F/B*. This will take the SUM collected in column **F** and divide it by column **B,** which is mapped to the total number of calls made. Now each individual cell in column **G** is mapped to collect the quotient for columns **B** and **F** from its corresponding row.



- **Column H:** Highlight the column and enter the formula *=G*100*. This will take the quotient from column **G** and multiply it by 100. We will now have a percentage of the total calls made that were for savings and checking purposes. Now each individual cell in column **H** is mapped to collect the percentage of savings and checking calls from its corresponding row.

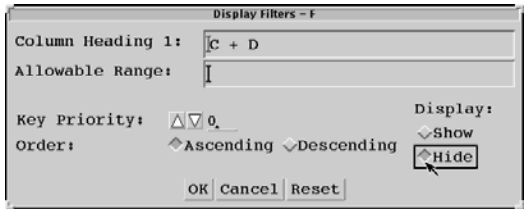


- **Check to see if the Columns are Mapped correctly**
  To see how each individual column is mapped, open the Column Mappings window from the Setup menu. For this sample, it should look like this:



- **Update Display Filters**
  Open the Display Filters window from the Column Menu. For each column, highlight the column, so that the Column menu is enabled, and select Filters.
  Choose the column which is mapped to display the date and time intervals and open the Display Filters window. All functions, except Column Heading, Show, and Display, will be disabled. Type in the column heading in the corresponding space. For this sample we have used column **A** to display the date and time.
  - **Column A:** Column Heading - *Date*

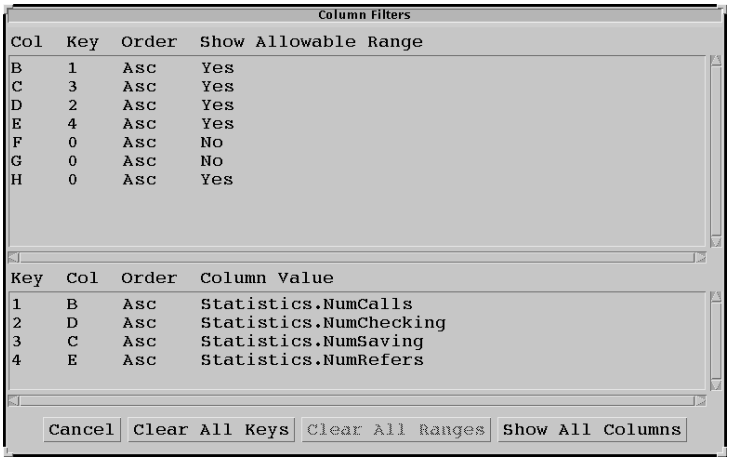
  Open the Display Filters window for each of the remaining columns. Choose the functions that best suit the needs of your particular report. For this sample, we will filter the following columns in the following ways.
  - **Column B:** Column Heading - *# of Calls*; Key Priority - *1*; Display - *Show*; Order - Ascending
  - **Column C:** Column Heading - *Savings*; Key Priority - *3*; Display - *Show*; Order - Ascending
  - **Column D:** Column Heading - *Checking*; Key Priority - *2*; Display - *Show*; Order - Ascending
  - **Column E:** Column Heading - *Referrals*; Key Priority - *4*; Display - *Show*; Order - Ascending
  - **Column F:** Column Heading - *C + D*; Key Priority - *0*; Display - *Hide*



  - **Column G:** Column Heading - *Decimal*; Key Priority - *0*; Display - *Hide*
  - **Column H:** Column Heading - *Percentage*; Key Priority - *0*; Display - *Show*

  Columns **F**, **G** and **H** can not be set with an Order because they have not been set to a Key Priority. An Allowable Range may also be set for each column, regulating the data it displays. No Allowable Range has been set for this sample.

- **Check to see if the Display Filters are correct.**
  To see how each individual column is filtered, open the Column Filters window from the Setup menu. For this sample, it should look like this:



- **Define Subtotals**
  Scroll down to the Subtotal row. Unless the color has been changed in the Screen Colors window, this row will appear green. Choose one column to represent the heading of this row. This will typically be the first column.
  - **Column A :** Highlight the cell. Label it by entering *lSubtotal*.

  Update the rest of the Subtotal row in the following manner.
  - **Column B :** Highlight the cell. Map it to gather Subtotal information by entering *@SUM(B)*.

  Do the same for each successive column, incrementing the column letter to match.

- **Define Totals**
  Scroll down to the Total row. Unless the color has been changed in the Screen Colors window, this row will appear blue. Choose one column to represent the heading of this row. This will typically be the first column.
  - **Column A :** Highlight the cell. Label it by entering *lTotal*.

  Update the rest of the Total row in the following manner.
  - **Column B :** Highlight the cell. Map it to gather Total information by entering *@TOT(B)*.

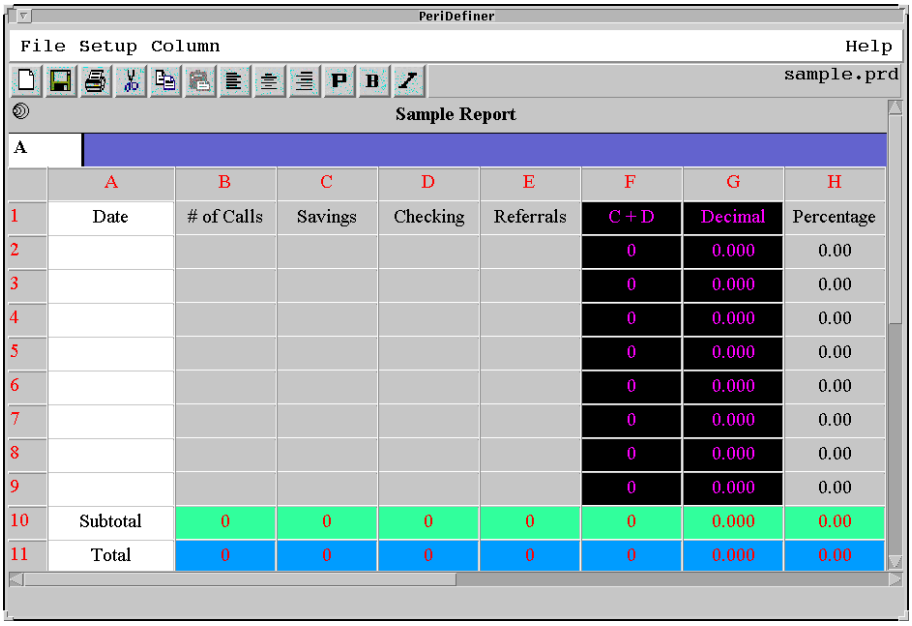
  Do the same for each successive column, incrementing the column letter to match.

- **Column Appearance**
  Open the Column Appearance window from the Column menu. For each column, highlight the column, so that the Column menu is enabled, and select Appearance.
  For the column which is mapped to display the date and time intervals, it may be necessary to expand the width. If this is not done the data may not fit and a series of question marks will be displayed in its place. For this sample, we have set the following.
  - **Column A:** Column Width - *130*

  For columns which are set to compute mathematical expressions, decimal places may be desired. For this sample we have set the following.
  - **Column G :** Number of Decimals - *3*
  - **Column H :** Number of Decimals - *2*

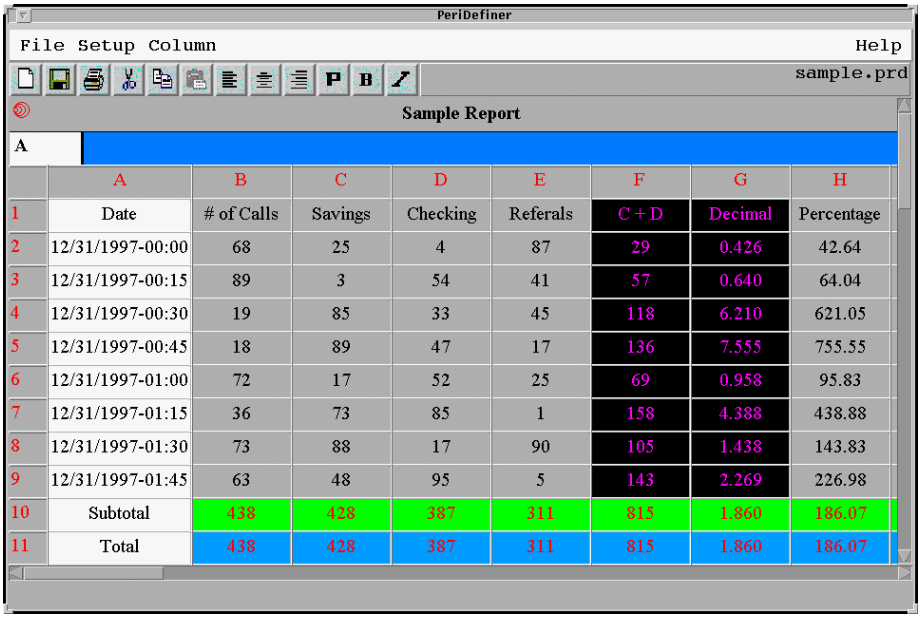
  You may also change the look of the displayed data by adjusting the Font and Style, along with the Justification within each cell. For this sample, we have left these parameters to the defaults.

- **Look at the Report Definition**
  Columns **F** and **G** will appear black because they are mapped to *Hide*. Since these columns are mapped to Functions and Formulas, these two columns, along with column **H** and the Subtotal and Total rows, will have *0* in their cells. The report definition for this sample should look like this:



	A	B	C	D	E	F	G	H
1	Date	# of Calls	Savings	Checking	Referrals	C + D	Decimal	Percentage
2						0	0.000	0.00
3						0	0.000	0.00
4						0	0.000	0.00
5						0	0.000	0.00
6						0	0.000	0.00
7						0	0.000	0.00
8						0	0.000	0.00
9						0	0.000	0.00
10	Subtotal	0	0	0	0	0	0.000	0.00
11	Total	0	0	0	0	0	0.000	0.00

- **Fill the Report**
  To verify all the column and cell Mappings and Formulas are entered correctly choose Fill Report from the File menu. Taking into account the fact that Fill Report uses random data, and it will be different every time, the filled report of this sample should look like this.



	A	B	C	D	E	F	G	H
1	Date	# of Calls	Savings	Checking	Referals	C + D	Decimal	Percentage
2	12/31/1997-00:00	68	25	4	87	29	0.426	42.64
3	12/31/1997-00:15	89	3	54	41	57	0.640	64.04
4	12/31/1997-00:30	19	85	33	45	118	6.210	621.05
5	12/31/1997-00:45	18	89	47	17	136	7.555	755.55
6	12/31/1997-01:00	72	17	52	25	69	0.958	95.83
7	12/31/1997-01:15	36	73	85	1	158	4.388	438.88
8	12/31/1997-01:30	73	88	17	90	105	1.438	143.83
9	12/31/1997-01:45	63	48	95	5	143	2.269	226.98
10	Subtotal	438	428	387	311	815	1.860	186.07
11	Total	438	428	387	311	815	1.860	186.07

  Because Fill Report only shows one page of what the report will look like, the Subtotal and Total rows contain the same data. In a real report the Subtotal rows would appear at the bottom of each page and the Total row would appear only at the end of the report.

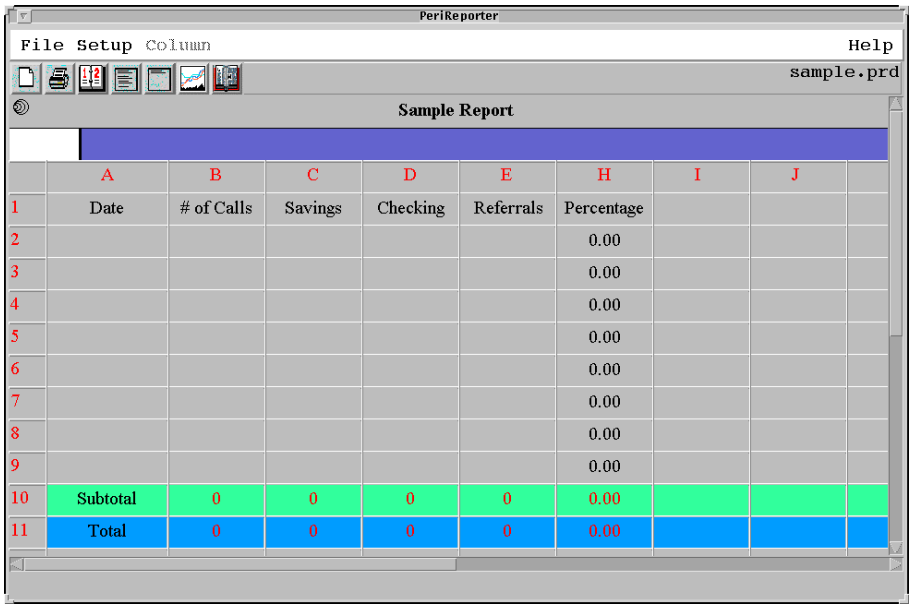
- **Update Global Settings**
  To specify the maximum number of rows and columns for the generated report, select Global Settings.
  Open the Global Settings window from the Setup menu. Choose Global Settings and then Configuration. For this sample, we have set the following.
  - Number of Rows - *100*
  - Number of Columns - *8*

- **Close the Report Definition**
  From the File menu, choose *Quit*. This will bring you back to the empty PeriReporter report screen.

3. Generate the Report

- **Open the Report Definition**
  Click on the Open icon on the tool bar. This will bring up the Open PeriReporter Report Definition window. Scroll down in the Files window until you find the report definition you have created. For this sample we will use the definition we created in PeriDefiner, `sample.prd`.

  Double-click on the name to open it. The PeriReporter Generation window for our sample report should look like this:



	A	B	C	D	E	H	I	J
1	Date	# of Calls	Savings	Checking	Referrals	Percentage		
2						0.00		
3						0.00		
4						0.00		
5						0.00		
6						0.00		
7						0.00		
8						0.00		
9						0.00		
10	Subtotal	0	0	0	0	0.00		
11	Total	0	0	0	0	0.00		

  Columns **F** and **G** will not be visible here because they are set to *Hide*. The calculations they perform will be reflected in Column **H**.

- **Set the Report Scope**
  Open the Report Scope window by clicking on the Report Scope icon on the tool bar.

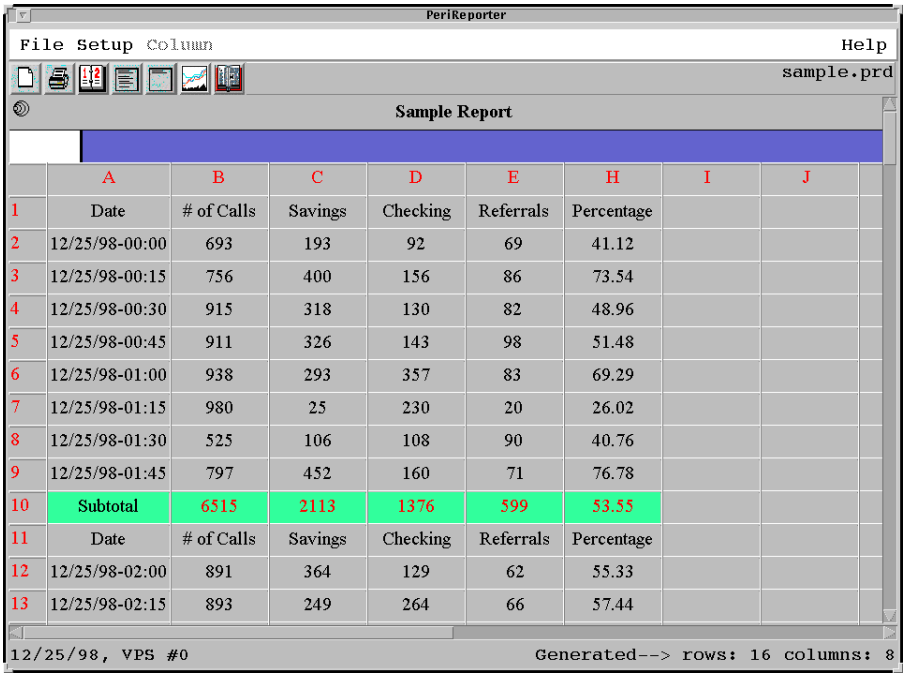
  Enter the Start Date, End Date, Start Time, and End Time.
  You may also choose to override the Avaya MPS/VPS numbers chosen in PeriDefiner.
  Click the List Files in Range button to see which files correspond to the dates specified in the report scope.

  For this sample we have used a Start Date of `12/25/1998`. We have left the End Date blank, so the report will only generate for the one day.
  We have left the Start Time and End Time set to the defaults.

- **Generate Report**

  Click the Generate Report button on the tool bar.

  The Report Generation of our sample report should look like this:



	A	B	C	D	E	H	I	J
1	Date	# of Calls	Savings	Checking	Referrals	Percentage		
2	12/25/98-00:00	693	193	92	69	41.12		
3	12/25/98-00:15	756	400	156	86	73.54		
4	12/25/98-00:30	915	318	130	82	48.96		
5	12/25/98-00:45	911	326	143	98	51.48		
6	12/25/98-01:00	938	293	357	83	69.29		
7	12/25/98-01:15	980	25	230	20	26.02		
8	12/25/98-01:30	525	106	108	90	40.76		
9	12/25/98-01:45	797	452	160	71	76.78		
10	Subtotal	6515	2113	1376	599	53.55		
11	Date	# of Calls	Savings	Checking	Referrals	Percentage		
12	12/25/98-02:00	891	364	129	62	55.33		
13	12/25/98-02:15	893	249	264	66	57.44		

- **Print Report**

  Open the Print Setup window from the tool bar by clicking on the Print icon.

  Set the Print Command line to specify your destination printer.
  Select Print.

  You may want to print the report several times, each time changing an option within the Print Setup window, to see which best suits your needs.

  For additional information on printing reports, refer to the ***Print a Generated Report*** section of this manual.

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